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Original Articles

ACUTE PERFORATIONS OF THE HOLLOW VISCERA*

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Probably no calamity which may befall calls for more promptness in treatment than the several perforative lesions which frequently involve the gastro-intestinal tract. Every man engaged in the practice of medicine should have clearly in mind the differential points in the diagnosis of these conditions as well as clear-cut ideas about treatment. Prompt diagnosis and prompt treatment are necessary if the life is to be saved.

Perforation from gastric and duodenal ulcers, perforations of the gall-bladder and of the appendix, and typhoid perforations are the type of all and will be the ones to be considered at this time.

SYMPTOMS OF GASTRIC PERFORATIONS

Acute perforations of round ulcers of the stomach are practically always accompanied by serious and well-marked symptoms. First, there is usually sudden sharp intense pain in the epigastric region, so sudden and so intense that it is not a rare occurrence for the patient to fall to the floor in a faint. This very intense pain is usually short in duration, but well-marked shock is present for a variable length of time, ranging from an hour to several hours. The ordinary manifestations of shock are found, a cold clammy skin, paleness of the face and lips, restlessness, a thready pulse and a subnormal temperature.

Within a few hours tenderness over the abdomen becomes general, perhaps slightly greater over the epigastrium, and abdominal rigidity is marked and boardlike. When the rigidity is first manifest the abdomen is usually flat, but it soon becomes distended and tympanitic and vomiting is likely to occur, the typical vomitus of peritonitis. The pulse has now become fuller and more rapid and as the peritonitis progresses it becomes still more rapid and more feeble.

The symptoms given by Mayo Robson are as follows:

> A sudden sharp abdominal pain. . . . Almost immediately the expression of the face changes to one of anxiety and great distress; the extremities become cold and clammy and the face blanched; the respirations are usually shallow and quick, and the pulse rapid and almost imperceptible at the wrist; vomiting may occur. . . . As a rule the patient rallies and the initial symptoms of shock pass off to a certain extent. There is then a great complaint of thirst which cannot be satisfied and the urine is scanty and high-colored.

The recti are rigid, the whole abdomen is board-like, at first retracted, later distended with gas. Liver dullness usually absent. In about 90 per cent. of the cases a history of previous stomach trouble can be elicited.

TREATMENT OF GASTRIC PERFORATION

Total abstinence from water should be prescribed, as water will only increase the peritoneal soiling. Cardiac stimulants should be used hypodermatically and if the shock is very severe all the usual methods to combat shock. Even on strong suspicion laparotomy should be performed since it has been shown that the earlier the operation after perforation the better the results. Mayo Robson and Moynihan have compiled a table of the mortality following operation in 133 cases.

Operated.	Mortality Per Cent.
Under twelve hours	28.5
From twelve to twenty-four hours	63.6
From twenty-four to thirty-six hours	87.5
From thirty-six to forty-eight hours	100.0
Over forty-eight hours	51.5

It is seen in this table that the mortality increases rapidly up to forty-eight hours when it becomes 100 per cent. Operations done later than this show less mortality, owing, no doubt, to the well-known fact that some of these cases have only a localized infection, becoming walled off and these occasional favorable cases are the ones in which the patient is most likely to be in a condition after two days to warrant an operation.

Sinclair Kirk, quoted by Robson, reports ideal results. He gives eleven cases in all of which the patient recovered. Eight of the patients were operated on within five hours, one seven, one ten and one twenty hours after perforation. It is now generally conceded by those with the best experience that the operation should be done with the greatest promptness possible compatible with good and thorough work regardless of the shock present at the time. Death is not as likely from shock as from peritonitis if operation waits on shock.

As regards technic, simple closure of the perforation by two or three superimposed purse-string sutures of linen thread is the best. The subject of drainage is important. If there is almost no peritoneal soiling it is sometimes advisable not to drain. As a rule pelvic drainage through a stab-wound above the pubes, by means of a rubber or glass tube, and with the patient in the exaggerated Fowler position is most likely to meet with good results. This should also be followed by the use of normal salt solution per rectum after the Murphy method, and ice over the abdomen, nutritive enemas and entire gastric abstinence for from three to seven days.

The question whether, after closure of a gastric perforation, it is advisable to perform gastro-enterostomy has been much in the foreground during the past few years. Often ulcers are multiple and secondary perforations may occur, as they have done in many instances. Robson, in Keen's "Surgery" gives the arguments in favor of gastro-enterostomy under such circumstances as follows:

* Read before the Western Surgical and Gynecological Association, Omaha, Dec. 19, 1909.

1. Other ulcers will be cured by the operation.

2. If a second ulcer is on the point of perforation such perforation will probably be prevented, as tension of the stomach walls will be avoided.

3. After gastro-enterostomy more secure healing of the sutured ulcer is likely to occur, and there will be less likelihood of the stitches giving away.

4. It diminishes the risks of hematemesis occurring after operation.

5. It enables saline aperients to be given shortly after operation and so secures more efficient drainage of the peritoneal cavity.

6. It permits earlier feeding than would otherwise be the case.

7. If the ulcer is at the pylorus it prevents the danger of stenosis.

OTHER PERFORATIONS

In perforating ulcer of the duodenum we have the same acuteness of the onset, but the sharp primary pain is a little more to the right. If a history of previous gastric symptoms is obtainable, the pain is found to have come on two and one-half hours to four hours after eating instead of one to two hours as in gastric ulcer. The course of the case, the need for prompt operation and in general the technic of the operation and the indications for or against gastro-enterostomy are essentially the same as have been outlined for perforating ulcers of the stomach.

Perforations of the gall-bladder are fortunately rare. The sudden pouring out of the contents of a distended gall-bladder into the unprepared peritoneal cavity brings about intense shock which may prove immediately fatal. Usually the inflammatory trouble has already produced pericystic adhesions so that the general peritoneum is protected against acute perforations. When they occur the operation should usually include removal of the gall-bladder.

Acute perforations of the appendix vermiformis are exceedingly frequent, more so, I am convinced, than is generally supposed. Here too the general peritoneal cavity is usually protected by adhesions before the perforation occurs resulting in a localized abscess. The omentum here serves a most useful purpose, surrounding and becoming adherent to the inflamed appendix.

Unfortunately the infection of the external peritoneal covering of the appendix does not precede perforation, at least not soon enough to induce life-saving adhesions. In these cases there is immediate shock of greater or less degree and a rapidly following general peritonitis. Operation before time for the onset of peritonitis gives the best results. If not soon enough for this, the newer the peritonitis the better. In general it may be said that the mortality increases rapidly with the development and progress of the peritonitis.

Every case of typhoid fever is liable at any moment, especially during the latter part of the second and during the third week, to become a very urgent emergency surgical case by the occurrence of a perforation. It is doubtful if we have even yet fully realized the importance of perforations as a mortality factor in typhoid fever, or the number of lives that might be saved by prompt diagnosis of this calamity and timely operation. Osler several years ago stated it as his opinion that one-third of all the deaths in typhoid fever were due to perforations. When we consider that upward of 50,000 die annually of typhoid fever in the United States and that over 16,000 of these deaths may reasonbly be attributed to perforations, it gives the discussion of this subject a dignity which merits the best thought and best effort of all engaged in practice.

I am convinced that every one treating a case of typhoid should have constantly before him the liability of the occurrence of perforation and that he should be on the alert to recognize it when it occurs and to act promptly should the emergency arise. The nurse should be instructed that the occurrence of sudden and unusual pain in the abdomen, especially in the right lower quadrant, is a danger-signal and calls for immediate notification of the attending physician. She should also be instructed to note the pulse and temperature of the patient at half-hourly intervals after the occurrence of the acute pain. She should also be on the alert for other manifestations of shock as pinched features, cold extremities, clammy skin, the characteristic restlessness, etc., and the physician should be informed of the results of these observations as soon as possible that he may have all the aids to diagnosis at hand. Often the subnormal temperature and other shock symptoms are very transitory and by the time the physician can reach the house they are gone. By this time it is usual for the abdominal muscles, especially over the site of perforations, to become somewhat more rigid than normally, the rigidity increasing in intensity with the advent of peritonitis.

It may be stated that the severer the type of the fever and the worse the physical and mental condition of the patient at the time of the perforation the more difficult will the diagnosis be and the more probable will the occurrence be overlooked. Definite symptoms such as have been sketched, even though the diagnosis appears to be in some doubt, call for immediate abdominal exploration. In cases of doubt, if operation is delayed until positive diagnosis of developing peritonitis is made, the mortality is more than doubled. Thus far I have found perforation in every case in which I have operated and must confess to have lost some patients because of fear of opening an abdomen needlessly.

The mortality following perforations of typhoid ulcers without operation is said to be from 95 per cent. up to 99 per cent. by different observers. The mortality of cases operated promptly after the occurrence of perforations has been given by several at less than 50 per cent. It must be acknowledged that at the period these operations are usually done the mortality is very high, many reporting 75 to even 100 per cent. This mortality is not necessary if operation is done before peritonitis begins to develop, and I expect to live to see the time when prompt operation is the rule and the mortality not more than 10 to 20 per cent.

In all the operations for perforations the time element of the operation itself is of the utmost importance. "Quick in and quick out" should be the maxim. Labored and prolonged technic will kill more than it will save. The aim should be to stop the leak by simple suture and establish peritoneal drainage by a large tube through a stab-wound over the pubes and its end resting in the cul-de-sac of Douglas in cases in general. In rare instances it may be found that the leakage has been so slight and the soiling so localized that drainage may be dispensed with. It is also my opinion that we should be guided always by the time-worn maxim, "When in doubt drain."

CONCLUSIONS

The one or two important points it is desired to accentuate are the following:

1. In every acute abdominal pain, the possibility of perforation of some part of the alimentary canal should be considered, and the case should not be dismissed as trifling till perforation has been definitely excluded.

2. In every case of perforation there is an absolute indication for immediate operation.

3. If the symptoms point rather definitely to perforation, but the diagnosis is in some doubt, exploration is safer than delay.

4. Shock is no contraindication to operation.

5. The operation should be as expeditious as possible, only what is necessary being done and artistic ideals being left to less urgent cases.

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NOTES ON THE PRESENT STATUS OF NITROUS OXID IN SURGERY

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In response to a request by Dr. Mumford, the Chairman of the Committee on Anesthesia of the American Medical Association, Dr. Charles A. Powers of the committee has asked me to give late data on the use of nitrous oxid in surgery. In doing this it is impossible to omit reference to the excellent papers presented to the Section on Surgery at its session of 1908.

In 1868 Andrews, of Chicago, first used a combination of nitrous oxid and oxygen. It is interesting to note that the French were the first to consider nitrous oxid as an anesthetic for long operations. In 1880 Paul Bert published an article[1] on the use of nitrous oxid in protracted surgical operations. In the same year Boddaert published the report of the commission on a mixture of nitrous oxid and oxygen.[2] In the last ten years it has tended to become more prominent as an anesthetic in long operations. Bevan and Haggard have done much to promote its general use.

Muller,[3] in 1905, investigated nitrous oxid in a very thorough manner. He states that death occurs by apnea in man in from two to four minutes by straight inhalations of nitrous oxid. He asserts that the gas is absorbed through the lungs into the blood, and that it is transported to the central nervous system. The ganglion cells take up some substances from the blood and there is a physical change in the cholesterin-lecithin mixture, resulting in paralysis of the ganglion and central nerve cells. It affects the colored races more rapidly than the white, and women are more easily affected than men. In the higher latitudes it is less deadly than near the equator.

PATHOLOGY

During anesthesia there is a hyperemia of the internal organs and the work of the stomach, intestines and liver is hindered. Muller experimented on animals —dogs and guinea-pigs. He would anesthetize for about thirty minutes and wait twelve to twenty hours and repeat. This might be repeated once or twice more, so that every animal had from one to four narcoses. On examination he found drops of fat in the ganglion cells (this occurs after all anesthetics and soon disappears). Fat collections were found in the cells of the brain capillaries, extending to the larger vessels. These were found in the cells of the intima and media; between the cells masses of fat were found, which thicken the vessel walls. If they undergo involution through degeneration of the cells, however, a scar formation takes place, with rarefaction of the vessel wall, giving rise to aneurisms and brain hemorrhage. The heart was occasionally found dilated after long anesthesia and the heart muscle lost its transverse striation, the fibers were clouded and numerous fat droplets bipolar to the nucleus were found.

Kidneys.—The urine was found to contain albumin after narcosis. In the epithelium of the convoluted tubules fat was found in considerable quantities. There was fat metamorphosis also in the tubuli recti, but no fat was found in the glomeruli. There was marked hyperemia of the kidney vessels.

Liver.—Fat was observed in large and small droplets, mostly in the periphery of the acini; only slightly in the center; in the periphery there was degeneration and necrosis of the cells. There was marked hyperemia and some hemorrhage of the liver vessels and in the parenchyma.

Lungs.—Death occurs by apnea through paralysis of the respiratory center. In early narcosis there is stertorous breathing caused by the larynx. Muller thinks the cyanosis due more to a mechanical hindrance than to a lack of oxygen in the blood and over amount of carbon monoxid. Dilation of the pupils and swelling of the tongue occurred when the anesthesia was too deep. There was a stimulation of mucus and salivary secretions. Fat metamorphosis was observed in the epithelium cells of the bronchial tract, and fat droplets in the alveolar cells.

Holden believes that there is an increased tendency to bleeding in nitrous oxid anesthesia. He saw severe lung hyperemia, and he holds that all patients having any diseases of the lungs, or ill with a hemorrhagic diathesis, are unsuitable for nitrous oxid narcosis.

Hilliard,[4] in 1905, published an article entitled "Meteorological Conditions As Affecting Oxid Anesthesia." He stated:

1. When the barometer is high (30° or over) the induction of gas anesthesia is longer, there is less cyanosis and jactitation, the gas can be pushed to the abolition of the conjunctival reflex without undue cyanosis.

2. When the barometer is low it is useless to try to abolish the conjunctival reflex, because the patient becomes so deeply cyanosed and jactitates so excessively. With an increase in the time of induction anesthesia the duration of available anesthesia also increases, and with a pressure of 30 inches of mercury the anesthesia is quiet and lasts nearly as long again as when it falls below 29 inches. When one gives nitrous oxid during a fall in the barometric pressure cyanosis occurs early and in less than a minute jactitation will become a prominent feature while the pupils will only have begun to dilate; this, although the breathing is stertorous and the available anesthesia consequently short.

Bevan[5] has used nitrous oxid rather extensively in major operations. In his paper read at the fifty-eighth session of the American Medical Association in 1907, he discussed the use of this agent and gave a list of the operations in which he has employed it. In a recent communication he states that he is using it constantly in major operations. He says that it is contraindicated in lung conditions.

At the meeting of the surgical section of the American Medical Association last year, Hamburger and

1. De l'emploi du protoxide d'azote dans les operations chirurgicales de longue durée. Progrès méd., 1880.

2. Rapport de la Commission chargée de l'examination du travail de M. Lebant conservant l'emploi comme agent anaesthétique d'un mélange de protoxide d'azote et d'oxygène sans pression, Bull. de l'Acad. Roy. de méd. de Belge, Brussels, 1880.

3. Muller: Die Stickstoffoxydulnarkose. Berl. med. Wchnschr., vi, 178; Charter: Administration of Nitrous Oxid and Oxygen, Brit. Dent. Jour., xxvii, 443.

4. Hilliard: Meteorological Conditions as Affecting Nitrous Oxid Anesthesia, Brit. Dent. Jour., xxvi, 598.

5. Bevan, Arthur D.: Nitrous Oxid as an Anesthetic in Major Surgery, THE JOURNAL A. M. A., July 20, 1907, p. 197; Bevan and Favill: Acid Intoxication and Late Poisonous Effects of Anesthetics, THE JOURNAL A. M. A., Sept. 2, 1905, p. 691.

Ewing[6] reported their experiments on the effect of nitrous oxid on the blood. They examined the blood for hemoglobin before anesthesia, during anesthesia, immediately after consciousness returned, and twenty-four hours later. They found:

1. An increase of 13 per cent. of hemoglobin during anesthesia.
2. A fall of 6.5 per cent. immediately after the mask was removed.
3. The fall reduced to 1.6 per cent. twenty-four hours later.

They then experimented to find the relation of the erythrocytes to this change in hemoglobin. Their conclusions were the following:

1. There was little change in the relations of the red blood cells to the hemoglobin.
2. The fall in hemoglobin noted immediately after anesthesia was not followed closely by a corresponding fall in the erythrocyte count, but that there was a slight increase of erythrocytes which persisted.
3. There was a slight increase in the hemoglobin contents per cell and no demonstrable change in the number of red blood cells.

They concluded that this showed there was no oligocythemia due to hemolysis and no persisting oligochromia or anemia.

Summarizing the series, Hamburger and Ewing found:

1. The rise and fall of hemoglobin reading observed chemically holds true in experimented animals.
2. The return to normal occurs within two hours after anesthesia.
3. There is no accompanying rise and fall in erythrocytes.
4. This change does not correspond exactly to the hemoglobin change, as shown by the high blood decimal during anesthesia and the low quotient immediately afterward.
5. The percentage volume undergoes little or no change.
6. The specific gravity increases and decreases hand in hand with erythrocyte change.
7. There is a post-narcotic leucocytosis closely following the erythrocyte curve.

William D. Haggard,[7] in his excellent paper of last year, analyzes briefly the signs of nitrous oxid anesthesia as follows:

1. Quick, deep and stertorous respiration, slightly irregular.
2. Increased pulse rate.
3. Dilatation of the pupil.
4. Absence of eye reflexes.
5. Fixed eyeballs.

The symptoms due to asphyxia are:

1. Cyanosis in various degrees.
2. Jactitation.
3. Clonic movements of the extremities.

He states that when proportionately too much gas is given respiration is irregular, quick and stertorous; the eyeballs are turned upwards with the lids widely open and the pupil dilated. Cyanosis is then extreme, the pulse thready and rapid. Continuation of this, with exclusion of air, causes respiratory failure from muscular spasm, although the heart continues to beat.

Haggard classifies the advantages and disadvantages of nitrous oxid anesthesia as follows:

ADVANTAGES

1. Quickness of action.
2. Absence of uncomfortable sensations to the patient.
3. Almost immediate recovery.
4. Absence of lung complications.
5. Absence of danger to the kidneys.
6. Absence of post-anesthetic vomiting.
7. Improbability of subsequent degeneration of the kidneys, liver and heart.

DISADVANTAGES

1. It is not suitable for fat, plethoric and alcoholic patients.
2. Its zone of anesthesia is within narrow limits.
3. Lividity and occasional talking occur.
4. It needs an accomplished anesthetist; the apparatus is not always easy to obtain.
5. The cost is not always inconsiderable.

The contraindications for its use are:

1. It should not be used for patients with distended hearts or for those with extremely bad hearts, whether with valvular or myocardial disease.
2. It is not suitable for young children on account of their fear of the mask.
3. It should not be used in cases of narrow or abnormal air passages, enlarged lymph nodes, goiters, or enlarged tonsils and adenoids.
4. It is not useful in the lithotomy position, especially in cases of hemorrhoids, as the patients tend to straighten out their legs.

Buckler[8] uses the apparatus on the same principles as the Hewitt inhaler, with certain modifications suggested by Dr. Joseph Gwathmey.[9] He thinks that the sole objection to nitrous oxid and oxygen is that patients on regaining consciousness are more sensitive to pain than those who are partly dulled for hours as in ether anesthesia. This can usually be overcome by giving a quarter of a grain of morphin hypodermatically just before the gas is administered.

As a preliminary to ether Buckler believes that nitrous oxid has no equal; it prevents the coughing, holding of the breath, swallowing and later, the stage of preliminary excitement.

The contraindications for nitrous oxid anesthesia, according to Ream,[10] are atheromatous and arteriosclerotic conditions; although he thinks that with double diligence and oxygen these cases may be safely anesthetized. He found that sprouting seeds refused to grow when placed in nitrous oxid, but resumed their growth when pure oxygen was added. He is a firm believer in the use of nitrous oxid in obstetrical practice because one may obtain analgesia and even anesthesia without muscular relaxation or disturbance of the normal course of labor. Ream states that uterine contractions are not in the least interfered with when the agent is used in the following method:

On approach of labor pains the patient is permitted to inhale three or four breaths to place her in a state of analgesia; the inhaler is then removed and the process is repeated as often as is necessary. Should it be desired to retard labor a small percentage of chloroform may be added. Owing to the rapidity of the action of the gas and its rapid elimination it stands foremost as an obstetrical adjuvant.

Gwathmey uses the Hewitt inhaler as modified by himself. He gives morphin sulphate before operation and warms the gas. By experiments on animals he has demonstrated that nitrous oxid and oxygen are most valuable for weak, anemic men and the majority of women.

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6. Hamburger and Ewing: The Blood Changes Incident to Surgical Anesthesia, THE JOURNAL A. M. A., Nov. 7, 1907, p. 1586.
7. Haggard, W. D.: Nitrous Oxid Anesthesia, Report of the Anesthetic Committee, THE JOURNAL A. M. A., Nov. 7, 1908, p. 1576.
8. Buckler, H. W.: The Use of Nitrous Oxid and Oxygen Alone, and in Combination with Ether as Anesthetics in General Surgery, Maryland Med. Jour., April, 1908.
9. Gwathmey: Mixed Narcosis, THE JOURNAL A. M. A., March 28, 1908, p. 1022; Nitrous Oxid Gas and Oxygen as an Anesthetic Agent, with Notes on the Value of Warming the Vapors of Ether and Chloroform, read before the Academy of Medicine, New York, May 21, 1908.
10. Ream: Nitrous Oxid and Oxygen in General Surgery, THE JOURNAL A. M. A., Sept. 12, 1908, p. 907.

A STUDY OF ACID-FAST AND ACID-SEMIFAST TUBERCLE BACILLI (HUMAN)

THEIR RELATION IN PURE CULTURES*

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In the examination of any sputum, observers have agreed that it is the greenish-yellow or caseous-looking masses that should be selected. When in such particles acid-fast bacilli can be demonstrated, after they have been spread, fixed and stained according to methods recommended in standard text-books, such bacilli are generally considered tubercle bacilli, and the sputum is said to come from a patient suffering from tuberculosis of the respiratory tract.

This, however, has been questioned by some observers, who assert that acid-fast bacilli demonstrable in the sputum are not always pathognomonic of tuberculosis of the respiratory tract. If so of what are they significant? Why the difficulty of demonstrating tubercle bacilli in the sputum of incipient, some moderately advanced, and very few advanced cases of clinical pulmonary tuberculosis?

Repeated careful examination of an average of twenty sputa daily for a period of about one year in the clinical laboratory of the Philadelphia Hospital, gave considerable difficulty in demonstrating tubercle bacilli in such cases.

In cases in which the clinical history was positive, the sputa were repeatedly examined by the spread method, and in many cases failed to demonstrate acid-fast bacilli. Such sputa were then treated with anti-formin, which destroyed all other bacteria. The sediment was then obtained by centrifugalizing, and repeatedly washed with sterile distilled water. The acid-fast bacilli, if present, were thereby obtained in greater concentration. Such sediments were spread on clean glass slides, dried and fixed by passing through the flame. New slides were always employed. These were kept in concentrated sulphuric acid, washed in distilled water, and kept in 95 per cent. alcohol, for a few hours before using. The staining methods were always uniform in time; the slides were fifteen minutes in carbol-fuchsin, and decolorized in Pappenheim solution for a similar length of time.

Variations in staining properties of the tubercle bacilli were noted and carefully studied. It was observed that the longer the slides were kept in the decolorizing fluid (Pappenheim), the more marked were the variations in the acid-fast properties? Such tinctorial change in tubercle baccilli have been observed by Dr. Rosenberger in his studies of acid-fast bacilli in the sputum, feces and in the blood, and have been reported by him on several occasions.

In several cases in which relation of acid-fast to acid-semifast bacilli was observed in the sputum, we had the opportunity of obtaining tissue from the lungs at autopsy. Small pieces of such tissue were crushed, and macerated in antiformin. Spreads were made from the sediment obtained from these tissues, and these showed a relationship in the number of acid-fast to acid-semifast similar to that found in the sputum.

Variations in morphology and in staining properties of tubercle bacilli in the sputum led to a study of the organisms with antiformin, pure culture being employed as a control. In this work, as in the previous study, carbolfuchsin and Pappenheim solution were used. Desiring to ascertain whether a similar relationship in the number of acid-fast to acid-semifast tubercle bacilli could be obtained by using decolorizing agents other than Pappenheim solution, we took such as were recommended by standard text-books and authors. Old and young cultures were obtained through the kind assistance of Dr. Rosenberger, from Mulford's Biologic Laboratory, from the Veterinary Department of the University of Pennsylvania and from growths obtained by inoculating glycerinated slants with the sediment obtained by treating tuberculous sputum with antiformin. The spreads from such cultures being left in the various decolorizing agents for definite but variable lengths of time, a relationship in the number of acid-fast to acid-semifast tubercle bacilli was noticed. This relationship varied with the age of the culture, the strength of the decolorizing agent and the length of time which it was employed.

Dissatisfied with conclusions reached because of the indefinite time for which the various decolorizing reagents used were recommended, we determined to take these decolorizing agents in definite strength, and to employ these for definite lengths of time. For this work, we obtained cultures from various reputable laboratories. Subcultures on glycerinated agar were made and these were studied when they attained an age varying from two to four weeks.

The following was the technic employed: New slides, as we have already stated, were used. A drop of sterile distilled water was placed on each slide by means of a sterilized platinum loop. Spreads were made with the utmost care to ensure as much uniformity of distribution as possible. These were fixed by passing three times through the flame, and placed in jars containing carbolfuchsin. These jars were rinsed with pure sulphuric acid and washed in distilled water before using. They were then placed in a water bath which was kept at a constant temperature of 120 F. for half an hour. The slides were removed and placed in their respective decolorizing reagents for definite lengths of time. The stains as well as the decolorizing agents were freshly prepared before using, and the time during which the slides were decolorized was carefully noted.

The technic of counting the bacilli was as follows: A circular cover glass was divided into squares, and etched by means of hydrofluoric acid. Twenty squares in which the bacilli were uniformly distributed were counted, and those squares where the bacilli showed clumps were discarded. On the average 100 bacilli were counted, and the results obtained by employing the various decolorizing agents for the varying but definite lengths of time were charted. Those bacilli that were distinctly red were called resistant; semiresistant those that were pink in color or almost decolorized; and those that were colorless or blue in color, were called decolorized. The blue color was due to the fact that the slides were counter-stained in Loeffler's methylene blue for five minutes, after they were removed from their respective decolorizing agents.

Five cultures were studied:

1. A sixteen-year-old culture (U. S. Department of Animal Industry).
2. A four-year-old culture (Parke, Davis & Co.).
3. A two-year-old culture (U. S. Department of Hygiene).
4. A three-months-old culture (Mulford's Biologic Laboratory).
5. An eleven-day subculture from four-year-old culture (Parke, Davis & Co.).

* From the Clinical Laboratory of the Philadelphia General Hospital; read before the Pathological Society of Philadelphia, Feb. 24, 1910.

The following were the acids employed in their varying strength, and time:

1. Nitric acid 5 per cent. in alcohol 95 per cent. for 2, 5, 10, 15 minutes.
2. Nitric acid 10 per cent. in alcohol 95 per cent. for 2, 5, 10, 15 minutes.
3. Nitric acid 30 per cent. in alcohol 95 per cent. for 1, 2, 5 minutes.
4. Hydrochloric acid 3 per cent. in alcohol 95 per cent. for 2, 5, 10, 15 minutes.
5. Aqueous and alcoholic (95 per cent.) sulphuric acid 5 per cent. for 5, 10, 15 minutes.
6. Aqueous and alcoholic (95 per cent.) sulphuric 20 per cent. for 2, 5, 10, 15 minutes.
7. Pappenheim's solution for 5, 10, 15, 30 minutes.
8. Sweet spirits of niter for 1, 2, 5 minutes.
9. Glacial acetic acid for 1, 2, 5 minutes.

At the reading of this paper before the Philadelphia Pathological Society an objection was raised to the use of the strong nitric acid in the 95 per cent. alcohol. As we have already stated, the decolorizing fluids were freshly prepared before using, and the 30 per cent. nitric acid in alcohol was controlled by an aqueous solution of the same followed by alcohol and we found that in the fresh state they gave the same results.

A count of the number of the acid-fast, acid-semifast and decolorized forms in the eleven-day-old subculture from the four-year-old culture of Parke, Davis & Co., was not taken owing to the scarcity of the very resisting and the semiresisting forms.

In order to reduce the bulk of charts thus obtained, we combined the results obtained under each acid for the variable lengths of time, and obtained the approximate percentages of the numbers of bacilli decolorized, resistant, and semiresistant with a given decolorizing agent for an average length of time. The table gives the approximate results thus obtained.

TABLE SHOWING PROPORTION OF RESISTING, SEMIRESISTING AND DECOLORIZED FORMS*

Acid Used.	Per Cent.	16-Year Culture: Very Resisting.	16-Year Culture: Semi Resisting.	16-Year Culture: Decolorized.	4-Year Culture: Very Resisting.	4-Year Culture: Semi Resisting.	4-Year Culture: Decolorized.	2-Year Culture: Very Resisting.	2-Year Culture: Semi Resisting.	2-Year Culture: Decolorized.	3-Month Culture: Very Resisting.	3-Month Culture: Semi Resisting.	3-Month Culture: Decolorized.
Nitric	5	74	22	4	49	41	10	13	33	54	32	15	53
Nitric	10	73	20	7	34	53	13	14	27	59	34	26	40
Nitric	30	31	45	24	25	51	24	13	35	52	19	4	77
Hydrochloric	3	50	34	16	14	53	33	34	32	34	40	24	36
Aqueous Sulphuric	5	73	13	14	29	27	44	27	28	45	..	..	..
Aqueous Sulphuric	20	17	51	32	34	46	20	14	26	60	..	..	..
Alcoholic Sulphuric	5	25	49	26	44	33	23	23	27	50	36	17	47
Alcoholic Sulphuric	20	23	50	27	19	33	48	27	21	52	28	27	45
Pappenheim	..	42	36	22	30	42	28	24	30	46	61	27	12
Sp. æth. nitrosi	..	33	32	35	19	27	54	13	23	64	40	28	32
Glacial acetic	..	35	44	21	17	48	35	24	32	44	2	20	78

* This work was controlled by the various modifications of the Gram method, such as the Much, Michaelides and Nicolle methods; and these gave results similar to those obtained by the authors just mentioned.

About 2 c.c. of an emulsion of each culture were injected respectively into five guinea-pigs of about equal weight. At the end of five weeks, each of the pigs showed gross tuberculous lesions. Most marked however, was the contrast in the lesions presented by the pigs inoculated with the sixteen-year-old, and the eleven-day-old culture. In the former (sixteen-year-old) only a few mesenteric glands and the point of inoculation were tuberculous; while the latter (eleven-day-old) the peritoneum was studded with tubercles, the mesenteric, and the inguinal glands were of the size of a bird's egg, and the liver, spleen and uterus were riddled with tubercles. The tubercle bacilli were isolated in pure culture from each of the pigs.

Various observers, such as Marmorek, Michaelides, Ferran, Fontes and Terebinsky, employing the Ziehl-Neelson method, find acid-fast and acid-semifast tubercle bacilli. The latter they place in the same class as the acid-fast. Much[1], Michaelides[2] and Fontes[3] have devised certain modifications of the Gram stain in order to be able to bring out these acid-semifast forms. Even with these modifications acid-semifast tubercle bacilli are demonstable in pure culture, though they are comparatively much more reduced in numbers.

Much, in his studies of tuberculous pus which was sterile to ordinary culture media, finds forms of the tubercle bacilli not demonstrable by the Ziehl method, but these were demonstrable by cultural methods. Ferran, working independently, finds forms of tubercle bacilli similar to those found by Much. Terebinsky[4] states that at times in pure culture and in infectious pus, one can see tubercle bacilli not equally acid-resistant, and that it is not rare to find isolated ones that are not acid-resisting. He is of the opinion that not only are young cultures non-acid-resisting, but that old cultures may lose their acid resistance under varying conditions.

Marmorek states that in young cultures no acid-resisting bacilli are found. Unna asserts that these bacilli are dead. Marmorek, however, shows that not only are these acid-non-resisting forms living, but that they are virulent. This is entirely in accord with the researches of DeSchweinitz and Dorset.

The investigations carried out by the observers just quoted are entirely in accord with the chemical analysis of the tubercle bacillus. According to the analysis made by Hammerschlag,[5] DeSchweinitz and Dorset[6] and others, the staining property of the tubercle bacillus is due to a highly fatty substance, which in itself gives the acid-fast character to the bacillus. (Fontes) According to chemical analysis, this substance is in greater abundance in older than in younger cultures, and is very scanty in very young cultures. It is to this scarcity of the fatty substance that the lack of acid resistance is attributed.

CONCLUSIONS

Considering the researches of these eminent men, and taking the results obtained in our work, employing old and young cultures, we consider the following points worthy of further investigation:

1. The acid-fast property of the tubercle bacillus increases with the age of the culture.

1. Much, Hans: Ueber die nicht saurefesten Formen des Koch'schen Tuberkelbazillus, Beitr. z. Klin. d. Tuberk., 1907, viii, 357, 368.
2. Michaelides, N. A.: Ueber eine durch die Ziehl-Färbung nicht darstellbare Form des Tuberkelbazillus, Beitr. z. Klin. der Tuberk., 1907, viii, 79.
3. Fontes: Untersuchungen über die chemische Natur der den Tuberkelbacillen eigenen Fett und Wachsarten und über das Phänomen der Saureresistenz, Centralbl. f. Bacteriol., Erste Abt., 1909, xlix, 317.
4. Terebinsky, W. J.: Sur la significance des formes non acido-résistantes du bacille tuberculeux; leur rapport avec le bacille de la lèpre. Ann. de dermat. et de syph., 1908, Series 4, ix, 503.
5. Hammerschlag: Chemische Untersuchungen über Tuberkelbacillen, Centralbl. f. klin. Med., 1891, xii, 9.
6. DeSchweinitz and Dorset: Composition of the Tubercle Bacilli Derived from Various Animals, Centralbl. f. Bakteriol, 1902, xxxii, 186.

2. In old cultures, isolated bacilli are found which are non-acid-resisting, and these bear a relationship to the acid-resisting forms.

3. The number of acid-non-resisting forms and the acid-semiresisting forms are relatively increased in young cultures.

4. In very young cultures, mostly acid-non-resisting, more semiresisting and very few acid-resisting forms are present.

5. The semiresisting forms when removed from the decolorizing fluid, and placed in a solution of methylene blue of definite strength, will gradually assume that color in proportion to the time that the slide was left in.

6. No single decolorizing agent at present employed will stain uniformly all bacilli that cause demonstrable tuberculous lesions.

7. No decolorizing agent at present employed in the examination of any tuberculous material is efficient enough to bring out the presence of acid-non-resisting forms. This is brought out by the work of Much, Terebinsky, Michaelides, Ferran, Duval and others.

8. Acid-non-resisting forms have been demonstrated in tuberculous lesions of the lymphatic system by Much, Terebinsky and Duval; also in cavities of the lung, and in sputum by eminent observers. Such forms were demonstrated by cultural methods when they were not demonstrated by staining methods.

In concluding, we wish to express our thanks to Dr. Rosenberger for the valuable suggestions that he had made, and for the deep interest that he had taken in the work throughout its entirety.

THE OBLITERATION OF THE CRAVING FOR NARCOTICS

REVIEW OF THE ARTICLE OF DR. ALEXANDER LAMBERT

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An article with the title "The Obliteration of Craving for Narcotics" appeared in THE JOURNAL, Sept. 25, 1909, and at a later date in a number of other journals; and the same article was reviewed to some extent in the Department of Therapeutics in THE JOURNAL, March 5, but there is so much in Dr. Lambert's article which is calculated to lead those who attempt to follow his teachings into serious error that I deem still further comment pertinent.

His article seems to be based on the assumption that the essential nature of the narcotic drug addictions is an appetite or "craving" for narcotics, and that this appetite or craving can be obliterated or overcome by an antidote or "specific." For such a "specific" he proceeds to give a formula.

This assumption is erroneous and the remedy proposed is not a specific. The demand of the system of the drug habitué, his inclination to take it, his desire for repeated doses of his particular drug, spring from a physical condition and not from a mere appetite such as the word craving ordinarily would be understood to imply.

The habitual use of a narcotic drug brings about marked functional derangement of every organ in the body. The bowels are habitually constipated, the portal system is engorged, digestion is deranged, the heart is overworked, the motor function of the bowel is greatly impaired, the activity of all the secreting and excreting organs is diminished, the body is poorly nourished and the entire system is saturated with the products of tissue disintegration; in fact, an intense toxemia exists. The nervous system is made to tolerate the presence of this toxic matter by keeping it constantly benumbed by the primary effects of repeated doses of the narcotic.

The urgent demand for a repetition of doses of the narcotic, the so-called craving, is due mainly to the effects of toxic matter on the nervous system. If this toxic matter is removed from the system, and just in proportion as it is done, the demand for the narcotic ceases, the so-called craving disappears, without the intervention or aid of any "specific" remedy. That Dr. Lambert obtains the results he records I do not question, but I am sure that he gives more credit to the belladonna preparation which he terms a specific than it deserves. That a remedy of this class does meet one of the indications in the treatment of such cases I will show later, but that it is the principle curative agent, or even the principle factor in overcoming the so-called craving, I deny. In the treatment of any disease the removal of the cause is of first importance. It is easily capable of demonstration that the toxic matter in the system of a drug habitué is the source of the demand for repeated doses of the drug; in fact, is the essential pathology of the addiction. When this pathology is overcome, when the system is freed from toxic matter, the craving or demand for the drug disappears as soon as the secondary effects of the opiates are exhausted without further treatment of any kind.

Dr. Lambert well urges the necessity for free purgation, but the purgative compounds he recommends are extremely drastic and the extent to which they are administered places an unnecessary tax on the strength of the patient. Drug habitués as a rule are very anemic, their blood is thin, their tissues are poorly nourished, they have no strength to spare; therefore in preparing them for the withdrawal of their drug, or in treating them subsequent to it, the most scrupulous care should be exercised to preserve their strength. While the administration of purgatives is essential in any effort to free the system from toxic matter, these should be selected and compounded so as to act in the most conservative manner and to place the least tax on the resources of the system. No purgative compound which depends on reflex action to excite the motor function of the bowel, as does those recommended by Dr. Lambert, meets this requiremnt.

Dr. Lambert finds great difficulty in getting purgatives to act. This is true because, in drug habitués, the motor function of the bowel is more completely suspended than the secretory function of the glands. In order to secure evacuation of the intestinal contents it is equally as necessary to stimulate the motor function of the bowel as the secretary function of the intestinal glands. Notwithstanding this fundamental proposition, Dr. Lambert administers glandular stimulants and trusts to their irritating qualities, or to the irritating qualities of the secretion they induce, to excite peristalis, the other essential condition to bowel movement. When the nerve centers are profoundly impressed with narcotics, as in the case of drug habitués, reflex action alone is not capable of exciting efficient peristalsis unless such reflex action is induced to an exaggerated degree. If glandular stimulants are given in such quantities and of such an irritating quality as to excite this exaggerated degree of reflex action they cause much distress, colic, griping, nausea, etc., and when they do finally act they

act with undue severity and exhaust the strength of the patient. On the other hand, if the motor function of the bowel is induced by direct stimulation of the motor centers, then much less of the glandular stimulant is required; it acts more promptly and efficiently and with much less tax on the resources of the patient.

There is no question but that the emunctories should be thoroughly aroused and free purgation obtained, but any course of treatment which involved the giving of purgatives, equivalent to 30 or more compound cathartic pills in less than three days' time, as does the plan advocated by Dr. Lambert, is extremely drastic and in my opinion involves an unnecessary waste of the patient's strength. Better results can be obtained with far more conservative measures.

Strychnin, in sufficient quantities to overcome the semiparalyzed condition of the intestine and to excite active peristalsis, is an essential ingredient of any purgative compound intended to empty the intestinal canal of a drug habitué, if that is to be accomplished without undue waste of the patient's strength. The administration of glandular stimulants (chemical irritants) to a drug habitué in such large quantities as to bring about a storm of irritation in the upper part of the intestinal canal sufficient to excite efficient peristalsis by reflex action is as unreasonable as the effects are unpleasant and exhausting. The principles on which a physiologic purgative compound for a drug habitué may be made, as well as many other details of the treatment, were fully set out in my paper[1] published in 1901. Had Dr. Lambert been familiar with that paper he would not have found so much he considered new in the Towns method.

Morphin or other form of opiate profoundly blunts the sensibilities of the nerve centers and this results in immediate and total arrest of intestinal motion. If these remedies checked secretion as promptly and completely as they do peristalsis they would be far more deadly than they are. It may be accepted as established that the essential pathology of narcotic drug addiction is toxemia. These toxins are of drug, intestinal and systemic origin.

If the system is freed from toxic matter and the portal system disengorged, morphin or other narcotic can be at once withdrawn without shock, collapse, heart failure, diarrhea or other dangerous symptom, and the suffering incident to such withdrawal will subside in a few days' time without further treatment of any kind. The patient would suff severely during these days, but if the system has been fully cleansed of toxic matter by thorough, persistent physiologic means, all desire for the drug, as well as all necessity for its use, disappear as soon as the secondary effects of the opiate have become exhausted, and this point is reached by or before the end of the fourth day from the withdrawal. The suffering during these days can be materially reduced if not entirely obviated by the judicial administration of belladonna or any one of the remedies of that series. It is much better to administer these remedies in the form of their alkaloids than to use the tincture or fluid extract, as these vary too much in strength and are unreliable. Then again, the patient's stomach is usually disordered and not in condition for prompt or uniform absorption of the medicinal agent; therefore, the stomach should not be depended on for the absorption of the remedies on which comfort depends when the individual can be promptly and certainly brought under the influence of the active principles of such remedies by hypodermatic administration.

1. Therap. Gaz., October, 1901.

Atropin, hyoscyamin, scopolamin, deboisin, or stramonium will serve the purpose if the patient is an opium habitué, and I have not been able to see any advantage in combining them. Any one of these alone seems to keep the patient in as comfortable a condition as do two or more of them combined. If a patient is brought to the same degree under the influence of any one of these alkaloids I do not believe that any clinician is expert enough by examining the patient or from his expression or conduct to tell which of them has been given. The office of a remedy of this class is not to cure the patient, not to act as a specific or antidote, but to serve as an anodyne or anesthetic and keep the patient in comfort while the elimination—the real curative measure—is being carried out or completed and while the secondary effects of the opiate die out. The painful reactionary symptoms which appear on the withdrawal of the opiate from an habitué are due mainly, as above stated, to the effects of the toxic matter on the nerve centers, but they are also in part due to the secondary effects of the opiate. So long as the opiate is given in regularly repeated doses the patient is kept under the primary, anodyne or anesthetic effects of the drug, but when it is discontinued the primary effects cease and the secondary effects appear. The anesthesia caused by the primary effects of an opiate when taken by an habitué is, on its withdrawal, succeeded by hyperesthesia equally marked and of greater duration. This hyperesthesia has a natural limit and terminates when the secondary effects of the opiate have become exhausted and the patient reaches a state of placidity and comfort because this hyperesthetic state has reached its limit and terminated, and not because he has had "a liquid green stool composed of mucus and bile." An important part of the office of the belladonna group is to obtund the sensibilities of the nervous system to this hyperesthetic state and thus protect the individual from suffering. It should be used with this idea in view and not with any thought of it as a "specific" cure for the drug addiction.

I do not believe that the prickley ash in the Towns formula has any value whatever. All that this combination will do can be accomplished by either of the other remedies alone or by the two combined without any aid from the prickley ash.

With the hope of making the principles of treatment herein suggested of practical value, I will give in detail an outline of treatment suitable to an uncomplicated case of morphinism in which the patient is taking not more than 10 grains of morphin a day.

Thorough elimination of toxic matter from the system is the primary and most essential step in the treatment. The principal obstacle to securing action of purgatives in drug habitués arises from the suspension of peristalsis by the primary effects of the opiate. During a period varying from 4 to 8 hours from the time of taking a dose of morphin intestinal motion is almost if not entirely absent, but as the early effects of the dose subside peristalsis is again gradually reestablished. Drug users as a rule take their drug only during the day or from the time of rising in the morning till bed time, say from 8 a. m. to 10 p. m. During these hours the system is kept constantly under the primary effects of the opiate and intestinal motion is very much restricted, but between 10 p. m. and 8 a. m. the effects of the day's dosing wear away and peristalsis becomes fairly active, and it is during the latter part of this period that the excretory organs do the principal part of their work.

In order to secure sufficient action of purgatives, advantage must be taken of this state of affairs and the

remedies so compounded and given at such time as to have the acme of their effects, both as motor and secretory stimulants, occur during the latter part of this period, when the system is least under the restraining influence of the opiate. To do this, begin at 2 p. m. and give, on an empty stomach, a capsule containing the following:

Calomel		
Powdered extract cascara, āā	13	gr. ii
Powdered ipecac	016	gr. 1/4
Phenolphthalein	06	or gr. i
Atropin sulphate	0002	gr. 1/200
Strychnin nitrate	002	gr. 1/30

Repeat a capsule of this size and strength at intervals of 2 hours up to 10 p. m., making 5 such doses. The patient is given his drug in the usual sized doses up to 8 or 10 p. m., but none is to be given from that time until after the bowels have been thoroughly emptied on the following morning. Nothing in the way of nourishment should be allowed to go into his stomach during a period beginning as much as 6 hours before the time of giving the first purgative capsule and ending after the purgation is completed. Then the patient may be given nourishment.

With a patient of average size and weight, taking not over 10 grains of morphin a day, the strychnin and atropin in these capsules will excite a fair degree of peristalsis notwithstanding the restraining effects of the opiate, and this will enable the glandular stimulants given with them to induce free evacuation from the bowel in from 8 to 10 hours from the time the last purgative capsule was given, thus securing bowel movements before the time for the usual morning dose of morphin; but, more certainly to secure this result, 6 hours from the time the last purgative capsule was given 1/20 gr. strychnin should be given hypodermatically and followed half an hour later with 2 ounces of castor oil or a bottle of citrate of magnesia; both the strychnin and the oil or saline should be repeated at intervals of 2 hours until the intestinal canal has been thoroughly emptied. No morphin or other narcotic is to be given during this time. If the bowels begin to act before the time for taking the usual morning dose of morphin the patient will experience no discomfort, but, on the contrary, the relief afforded by the active elimination will be such as to enable the individual to go several hours beyond the time for the morning dose without feeling the need of it, and this should be done, thus allowing as much time for elimination as possible. When the patient has gone as long as he can without discomfort and begins to feel the need of the drug it should be given, but in reduced doses. It will be found that after the bowel has been thoroughly emptied and the patient has gone without the drug several hours beyond the usual time for taking it, not more than half the morphin he had been taking will be required to meet the demands of the system. This reduced quantity should be given at the same intervals at which the individual had been taking doses of morphin and a liberal diet should be allowed.

Forty-eight hours from the time the first purgative course was begun, another, in 5 capsules of the same size and strength, should be given, preceded by 6 hours' fasting.

The patient should be given the morphin in as small doses as will keep him comfortable up to the time of his evening or bedtime dose on this day, and this should be the last opiate given in the case. Six hours from the time of giving the last capsule of the second purgative course, the strychnin and oil or saline should be given as before and repeated if necessary until free bowel movements have been obtained. During this time the patient should be given a bath and put to bed.

The action of this course of purgation will carry out of the system a residue of extremely toxic matter and the patient will experience such relief from it as to enable him to go even longer beyond the time for his accustomed dose than he did after the first course, especially if he remain in bed, which he should do. In the course of from six to eight hours after the time for his morning dose, however, he will begin to feel uncomfortable and require something for relief; then, instead of giving the opiate as before, scopolamin, 1/200 gr., should be given hypodermatically and the same dose repeated in 30 minutes.

The patient will usually fall asleep within half an hour from the time of giving the second dose of scopolamin, but if not, and if he is at all uncomfortable, a third dose of the same size may be given. If the patient is not uncomfortable, let him go until the lapse of an hour from the time of giving the second dose. If at the end of that time he has not fallen asleep a third dose should be given. This dose may be of the same size of the other two or it may be increased to double that size, depending on the degree of impression made by the preceding doses. If the patient has no unusual tolerance for the drug, these doses will bring him under the influence of the remedy to such a degree as either to induce sleep or to establish a slight belladonna intoxication, in either of which conditions he is free from suffering. If he goes to sleep he should be allowed to sleep until he wakes, even if that be 6 or 8 hours, but when he does wake, no matter how comfortable he may feel, an additional dose of scopolamin should be given; usually 1/200 gr. is sufficient, but that must be regulated by the susceptibility of the patient. These doses must be repeated at such intervals as may be required to keep up a mild belladonna intoxication and keep the patient free from pain. He may sleep more or he may not, but that does not matter so long as he is kept in a comfortable condition. He should be impressed to this degree with scopolamin for a period of 36 hours from the time of beginning this remedy, and then all narcotic medication should be discontinued.

During the time the patient is kept under the influence of scopolamin it is usually well to give 20 grains of sodium hyposulphite every 2 hours, and these doses should be continued for 24 hours or more after the scopolamin period has passed. These small, frequently repeated doses of hyposulphite supplement the effects of the calomel purge and after they have been kept up for from 24 to 36 hours the patient will begin to have small, billious stools, unattended by colic, griping or other distress, and these will more fully cleanse the system from toxic matter and prepare the patient for a rapid and successful convalescence. This period is reached by the end of the fourth or fifth day from the beginning of treatment, after which no medication is indicated, so far as the addiction itself is concerned. The patient will have no desire for his drug nor will he suffer because of abstinence from it. It is true he will feel weak and miss the support of the artificial stimulant to which he has been accustomed, but the unbearable nervousness, hot flashes, aching of the limbs, labored heart action, sweating, diarrhea, restlessness and insomnia so marked under most other plans of treatment will be absent and the patient will be able to lie quietly on the bed, pass his time in comfort, and not only will he enjoy taking nourishment, but he will digest and assimilate it in liberal

quantities. So marked is this feature that it is not at all unusual for patients thus treated to gain a pound a day until they have fully regained their normal weight.

If the heart action is at all deficient either during or after treatment, spartein sulphate in doses of 2 grains at intervals of from 4 to 6 hours will give it reliable and uniform support, and this without detriment to the patient; but it is rarely necessary to use anything for this purpose. The relief afforded the heart by cleansing the system from toxic matter and unloading the portal system is more than enough to compensate for any support it had been receiving from the opiate and the circulation is better than it was under the opiate.

The after-treatment does not consist in the administration of medicine. Certainly strychnin, alcohol and all other stimulants should be avoided. The patient should be given a reasonable quantity of light digestible food and encouraged to take out-door exercise and to spend his time in lively company, with games, music and other diversions of an innocent character. The period of convalescence, from one to two months, should be spent under the direct supervision of his medical advisor and preferably in an institution devoted entirely to the treatment of this class of patients. It is a mistake to undertake the treatment of such patients at their homes or in a general hospital. Such environment does not give the physician that degree of control of the patient and his surroundings as to enable him to give the patient the protection he requires; neither do they afford the accessories which may be used to the great advantage of the patient. In a properly equipped institution, hydropathy, electricity, massage and other such rational means are at hand and can be employed to meet any slight complications from which the patient may suffer, and thereby avoid the administration of medicine and more perfectly wean him from dependence on drugs.

The active therapeutic measures required in the treatment of these cases are completed in a few days' time, but the patient must not be considered cured simply because he has been taken off the drug and brought to a condition in which he no longer wants or requires it. Discreet supervision during the period of convalescence is as essential to the permanency of the cure as the therapeutic measures were to its beginning. The patient must be given every aid possible to regain his self-control and must not be thrown on his own resources until he has fully reached that point.

The above outline is as complete as space will admit of its being made, but much is left out which might prove helpful in some cases. No two cases of morphinism are exactly alike and no routine treatment can be devised which will meet the requirements of every case; however, only two of the remedies suggested will, ordinarily, need to be varied in quantity or time of administration. These are the strychnin and scopolamin. The more opiate that is being used the more strychnin will be required to overcome its paralyzing effects on the motor function of the bowel. The age, weight and physique of the patient must also be considered in determining the quantity of strychnin required. The difference in the susceptibility of different persons to scopolamin is very great and the range of dosage is wide; therefore the only correct rule is to begin with small doses and repeat at short intervals until the impression desired is made and then regulate the size and frequency of the succeeding doses by the effects obtained from those which have preceded it.

In a work which I am preparing for the press I am devoting more than 100 pages to the discussion of these and other details of the treatment of this class of cases and I hope to make this work so complete that one seeking specific information on these points will not be disappointed.

Before closing this paper I think I should say a word as to the mental attitude of the physician who essays to treat patients of this class. To succeed, he must divest his mind of the notion which most physicians have that these cases are shrouded in some mystery, that there exists some obscure nerve lesion or other undefinable pathology which renders the patient distinctively different from other sick people. If such conditions exists, they vanish under the application of remedies according to the general principles of medicine and the exercise of a little common sense.

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THE TREATMENT OF TUBERCULOUS CERVICAL ADENITIS BY THE ROENTGEN RAYS

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The permanent cures which are effected by the Roentgen rays without the production of scarring or disfigurement have rendered this method of treatment particularly adaptable to those lesions which are situated on the face and neck. The cosmetic result is particularly valuable in the treatment of enlargements of the lymphatic glands in the neck, but is also advantageous in epithelioma, rodent ulcer, lupus, acne, particularly the indurated form, and the severer forms of eczema.

In these conditions excision, curettement, freezing and other corrosive applications are employed in rebellious cases, and are necessarily the cause of scarring which produces marked disfigurement. This is entirely avoided by the Roentgen treatment, under which, even where there has been a marked destruction of tissue, a normal condition, or only a very slight amount of scar tissue, is produced. In cases in which there has been no deep erosion the restoration to the normal is perfect and no scar is visible.

In the treatment of tuberculous cervical adenitis, the avoidance of scars is complete, unless the case has progressed so far that suppuration is present. There is, however, a factor of much greater value in this method of treatment. The results are permanent, even in cases in which recurrence has followed repeated operations. This results from the complete conversion of the lymphatic glands, and particularly the lymph channels into purely fibrous tissue, thus eliminating entirely the possibility of the spread of the disease.

The reason for this is that the Roentgen rays have a selective action, destroying first the tissues of lowest vitality and development by converting them, as has been demonstrated by operation and pathological examination, into fibrous tissue. The early destruction of the lymphatics has the advantage of isolating the disease in the lymph-nodes, which are finally absorbed. Patients sent early, therefore, can be cured without scarring or the breaking down of a single gland.

This is a consideration of special importance, as the disease occurs most frequently in young women and girls, and since the treatment is harmless, painless and produces no scarring, the consent of the parents can be obtained when the disease is in its incipiency and treatment is most effective. It can also be carried out in

conjunction with medical treatment under the supervision of the family physician.

The systemic effect of the Roentgen treatment of tuberculous adenitis has been studied by its effect on the opsonic index. It has been shown that the opsonic index of the patient rises as treatment progresses, but that it will fall into the negative phase, and the progress of the patient will be greatly retarded, if treatment is too severe.

To be effective, this treatment must be adapted to the individual patient. If the dose is too weak there will be no progress; if pushed too far, improvement ceases, and a favorable termination can be secured only by judicious treatment of the negative phase on which the patient has entered. To be effective, this treatment must be employed by a capable clinician, who can appreciate the effect of the remedy as employed. The failure to secure permanent results can also be explained with this knowledge as a basis.

The variations of the opsonic index of these patients under Roentgen treatment leads to a plausible explanation of the effect produced on lesions at a distance, by treatments applied locally to the enlarged glands in the neck. The evidence of these changes makes it probable that an autogenous vaccine or antibodies are produced which pass through the patient's system, as the result of the destruction of the tuberculous tissues in the involved glands, and that they affect tuberculous foci at a distance from the lesions under treatment.

The Roentgen diagnosis of pulmonary tuberculosis has shown that the lungs become infected directly, that is, in the congested pulmonary tissue, or that this is preceded by an earlier infection and enlargement of the peribronchial lymph-glands. This has been shown by cases in which the symptom-complex, with or without the presence of the tubercle bacillus, pointed to a tuberculous lesion which could not be demonstrated by methods of physical diagnosis, and in which notwithstanding, the Roentgen examination showed enlarged peribronchial glands, and repeated examination of the sputum afterwards discovered the tubercle bacillus.

In one of the cases here reported, a Roentgen examination showed that in addition to the cervical glands the peribronchial glands were also enlarged. A second examination a year later, when the cervical glands were nearly gone, showed that the peribronchial glands had been entirely absorbed although they had not been in the field under treatment. This was also true of the post-cervical glands, which on account of the hair had not been treated. Thus there is evidence of a systemic effect which can reasonably be explained as the result of autogenous antitoxins or antibodies produced in the patient's system by the destruction of the tuberculous glands during the Roentgen treatment. In any patient having tuberculous cervical glands it is therefore probable that efficient treatment will produce an autogenous vaccination which will destroy other foci and confer some degree of immunity.

The Roentgen treatment of cervical adenitis is not confined to the earlier forms, although it is in these cases that the best cosmetic results can be obtained. Patients who have had repeated recurrences after operation, or in whom ulcerations and sinuses still persist, can be successfully treated by this method.

In the earlier cases medical treatment should not be persisted in too long, as there is danger of softening, suppuration and scarring. The medical measures can be continued in conjunction with the Roentgen treatment, since they are directed towards the increase of bodily vigor. This group is composed of the cases of children and young adults, who when seen early can be cured by a short course of treatment.

The second group of cases is composed of those in which recurrence has followed a complete operation with entire healing of the skin.

CASE 1.—Miss C. M. H., aged 20, who has been referred to above, will represent these cases. She had had two radical operations within the four years previous to coming for treatment, and besides, numerous suppurating glands had been opened. A mass of glands filled the left side of the neck between the clavicle and the inferior maxilla, extending latterly beyond the line of the jaw. There were numerous glands on the right side and in both posterior cervical lymph chains. A Roentgen examination showed the peribronchial glands to be enlarged. Under irradiation of the anterior cervical glands alone, all the glands disappeared, including the peribronchial, which a second examination failed to reveal. In addition, the wide scars resulting from the previous operation, and a disfiguring mass of scar tissue where a drainage tube had been inserted, have been rendered white, soft and less noticeable.

The third group of cases comprises those in which after surgical operations sinuses persist and the scars refuse to heal after prolonged antiseptic treatment. In these cases Roentgen treatment in addition to antiseptic precautions produces permanent healing with a decrease in the amount of scar tissue.

CASE 2.—Mrs. C. M. S., aged 57, had had for over six years persistent sinuses and open scars that refused to yield to careful surgical dressings. In addition there were enlarged glands. All of these lesions yielded to Roentgen treatment and the patient has remained well for the past four years.

It is therefore evident that Roentgen treatment is the most effective method of treating tuberculous cervical adenitis in all its varieties, and that the best cosmetic, and equally permanent results can be obtained in the early stages of the disease without operation, and at a time when the consent of patient and parents can be readily obtained.

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THE SPIROCHÆTA PALLIDA

ITS RELATION TO THE TONSIL

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In an earlier communication,[1] dealing with the diagnostic significance of the *Spirochæta pallida* in various syphilitic lesions, we had occasion to refer to the fact that it was possible to obtain this micro-organism from the tonsils of individuals suffering from syphilis. It is to amplify that reference that this short contribution is made. The observation *per se* is not new and is referred to in Hoffmann's latest review dealing with the spirochete.

I was led to examine the following series of tonsils for two reasons: (1) in the routine examination for *Spirochæta pallida* I found that gland puncture was of very little practical value; negative findings were all too frequent even in cases with marked secondary signs. This seemed to be due to the large number of cellular elements which obscured the field. As I found no method of avoiding these to be satisfactory, it occurred to me that I might more easily obtain serum from the

1. THE JOURNAL, M. A., March 19, 1910.

tonsil. (2) in the examination of various mouth lesions I had already found that the enlarged tonsils often found in secondary syphilis yielded large numbers of the *Spirochæta pallida,* and this quite apart from any ulceration or patchy condition of their surfaces.

These two facts then led me to examine the tonsil in all its forms in primary, secondary and tertiary syphilis. By far the greater number of the patients were in the secondary stage, although not a few examinations occurred before definite secondary signs had been observed. In brief, the findings are as follows:

When the tonsils are patchy, or show superficial ulceration, the *Spirochæta pallida* is found with the same frequency as from a mucous patch elsewhere, *i. e.* almost invariably.

When the tonsil presents no superficial lesion, but is enlarged and hyperemic, spirochetes are found invariably, in my experience.

When the tonsil presents no lesion and no hyperemia but is slightly enlarged, and perhaps shows a tendency to bleed easily on scraping the surface, spirochetes are to be found with a large degree of certainty.

When the tonsil presents an absolutely normal appearance, it is possible in most cases of secondary syphilis to find the spirochetes.

When syphilis is not present I have never found the *Spirochæta pallida.*

The method of examination is as follows: After anesthetizing the pillars of the fauces and soft palate by means of a swab moistened in a 10 per cent cocain solution, the surface of the tonsil is cleaned by rubbing with a cotton swab or by curetting away any surface débris. One then continues gently to curette the surface until blood-stained serum appears. This is caught on the clean curette, transferred to a perfectly clean slide, immediately covered with a cover glass and allowed to make as thin a film of serum as possible.

The search is carried out on the dark field illuminator. It is also possible to make use of stained smears, in which instance the following modification in staining has been found useful:

Fix the thin fresh smear over osmic acid (1 per cent.) vapor for 30 seconds; flood with Giemsa's one solution stain, 1 part to 10 or 15 parts distilled water (the water should be rendered very faintly alkaline by means of a drop of potassium carbonate solution). The slide is gently heated for from 3 to 5 minutes, avoiding precipitation and renewing the stain if necessary. The spirochetes stain more darkly by this than by any other method known to us.

In order to avoid self-deception in dealing with the spirochetes of the tonsil it has been necessary, in my experience, to observe the following safeguards:

1. One should recognize as *Spirochæta pallida* only such forms as conform in all particulars, such as length, number of spirals, delicacy, staining peculiarities, or, in the living state, the even rotation of the spirochete about its long axis. This even rotation is almost peculiar to the *Spirochæta pallida* and is due to the regularity of its spirals and to the fact that its extremities end as a regular continuation of the spiral.

2. One should take care to avoid surface contamination and to obtain the serum from the deeper parts.

It thus follows that when we find typical spirochetes in a field of clear serum, with a few red and white blood cells, and unaccompanied by other types of spirochete, we can diagnose syphilis with certainty. On the other hand, when surface epithelium is present, with little true serum and several varieties of spirochetes, it is hazardous to diagnose syphilis.

The principal spirochetes which demand differentiation, are: 1. A delicate spirochete with spirals of about the same size as those of the *Spirochæta pallida,* but not more than 7 or 8 in number; it is always found in the neighborhood of epithelial débris and never in the pure serum. 2. A spirochete of about the same length as the *Spirochæta pallida* and possessing 8 or 9 spirals. It is however somewhat coarser and its spirals and movements more uneven. When at rest it is scarcely distinguishable from the dead *Spirochæta pallida,* but on staining takes a deeper stain. It, too, is a surface organism.

Both these organisms occur in normal throats but are more plentiful when the tonsil is enlarged or inflamed. Both deserve the name of pseudo-pallida.

Analysis of these findings permits of the following grouping: In all 68 tonsils were examined: Fourteen cases were normal or abnormal, but not syphilitic; none of these tonsils showed the *Spirochæta pallida;* ten cases occurred in primary, secondary and tertiary syphilis, with negative findings. Forty-four cases occurred in secondary syphilis; all of these yielded the *Spirochæta pallida* from the tonsil.

These various groups require a word *in extenso*:

1. Of these 14 cases, 8 occurred in normal throats, and in 6 patients the tonsils were abnormal either from acute tonsillitis or from hypertrophy. Other spirochetes were most numerous in the abnormal throats, though present in almost every instance in the superficial tissue. 2. This group consisted in part of patients with tertiary syphilis without throat lesion, or of latent secondary syphilis, the patient having been under treatment for varying lengths of time. One was a case of primary syphilis before general glandular enlargement, and five were patients in whom a diagnosis of secondary syphilis was certain, or suspected on sound grounds. No *Spirochæta pallida* were found in any of these cases. 3. This group is composed of 44 cases of secondary syphilis, in all of which the *Spirochæta pallida* was found. That these were cases of genuine syphilis is vouched for in a few cases by the effect of treatment, but in the majority of instances by the presence or sequence of other syphilitic lesions, often with the finding of the *Spirochæta pallida.*

As I have already noted, the number of spirochetes is likely to bear a direct ratio to the size, hyperemia and superficial lesion of the tonsil. Keeping this in mind we may divide the group as follows:

a Tonsils enlarged and patchy, 17; all with positive findings. In 7 instances the diagnosis of syphilis was at first only to be made on the appearance of the throat and the positive findings.

b Tonsils enlarged, not patchy or ulcerated, but often hyperemic, 7 cases. In the majority of these cases diagnosis was made on the throat finding alone.

c Tonsils, normal in size and appearance, 20 cases. In 9 of these the diagnosis of syphilis was made at first instance on the positive spirochete finding alone.

To draw absolute conclusions from such a series of cases would not be justifiable. Certain cases, however, point out certain possible deductions.

Case 149, in which the primary lesion had first appeared 13 days previous to examination, showed no general glandular involvement, and gave negative results from the tonsils. In the majority of those cases which showed general glandular involvement *Spirochæta pal-*

lida were recovered from the tonsil. It is probable, therefore, that generalization of the virus affects both tonsil and glands about the same period, and it is possible to diagnose this stage definitely by obtaining the *Spirochæta pallida* from the tonsil.

Case 146 would support the diagnostic value of such examination. This patient was a young girl, undersized, whose age was stated as 13 years. She came to the nose and throat department of the hospital for what was looked on as hypertrophied tonsils. As she spoke little English, the history was uncertain. We had occasion to make use of her as one of the controls and were considerably astonished to find the *Spirochæta pallida*. The question of syphilis had never been mooted but on careful investigation the patient was found to be 16 years of age, the mother of a child, and subsequently developed mucous patches.

Those patients who have been well treated have always failed to show the *Spirochæta pallida* as have the tertiary cases, with the possible exception of a single badly ulcerated tonsil with indefinite history, and of the tertiary type.

In conclusion, it would appear possible to obtain the *Spirochæta pallida* from the serum of the tonsil in from 80 to 90 per cent of patients suffering from untreated secondary syphilis (44 out of 49 cases in this series). This is possible from the period of general glandular enlargement until the end of active secondary signs, or until the effect of treatment has been manifested. This fact has proved of diagnostic importance in a number of cases of early secondary syphilis.

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THE TRUTH ABOUT TONSILS AND ADENOIDS*

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The common appearance of highly complex tonsillar tissue occurs only in the highest types of animal development. Its noticeable presence occurs in a large majority of persons. It is fair to assume, accepting Darwin's theory of the origin of species, that the development of the tonsils is a detail of highly civilized type-variation which is becoming, if indeed it has not already become, a characteristic. If the presence of this development were detrimental—if the tonsils were the bugaboo they are often pictured—they would long ago have disappeared with their owners under the law of survival, instead of appearing now in their most complex form almost universally in the highest types of human kind, as the sturdy guardians of the dangerously exposed introitus of the two great systems, digestion and respiration. I say "highest types of human kind" advisedly, and it is interesting to note, for perhaps it adds a little weight to the argument, that the embarrassing presence of tonsillar tissue in the negro, for instance, is not common, and I have never once seen it that I can recall, in the pure black. It is occasionally seen in the mulatto, and oftener as the mixed type approaches nearer to the pure white stock. At all events it has been shown [Packard] that the tonsil is not a vestigial remnant, for its appearance has been demonstrated from its simplest form in the lowest of the vertebrates, to its most complex form in man.

Systematic inspection of the throats of hundreds of school children convinces me that the noticeable presence of tonsillar tissue is normal, at least up to the age of puberty, and probably later. Furthermore I have been unable to observe that there is any fixed, or even approximate, period of life at which tonsillar atrophy occurs. It may take place at any age according as artificial or natural influences bear on the condition.

In a large number of cases the swollen tonsils are, in my opinion, a purely compensatory hypertrophy—a line of defense thrown out by Nature to protect the mouth-breather—taking up in a measure the functions of the nasal turbinals, and when proper nasal breathing is reestablished in these cases the hypertrophied tonsils shrivel and withdraw. These are essentially the lymphatic type of hypertrophy; but even the evidently fibrous type often exhibits an astonishing tendency to shrink. Such compensation is not unique. It occurs variously in the human economy; and, indeed, all Nature is full of such automatic manifestations.

Another point, which seems to have escaped attention is this: Modern research has made us familiar with certain principles of immunization. We know that we are constantly exposed to the deposition of pathogenic bacteria on the surfaces of the upper respiratory and alimentary tracts. We know that comparatively few of us develop systemic infection. Furthermore, we know that imprisoned colonies of these bacteria are very frequently, if not constantly, found in the tonsillar structure. In the light of our present knowledge it is then apparently certain that the absorption of toxins from the imprisoned colonies must effect a certain systemic immunization. There appears to be no alternative to the deduction. This theory is in no sense controverted, nor is its force weakened, by the fact that there are times when, owing to weak resistance or to an excessive amount or excessive virulence of the infection, the tonsillar barrier is broken down and the lymph structures are overwhelmed by the poison. There are two theories extant regarding the possible tonsillar obstruction, one being that this tissue presents a mechanical barrier to the entrance of the bacteria, and the other that the bacteria are destroyed in the tonsil by some process of phagocytosis. Granting the partial truth of these theories, it must be admitted that they contain certain weaknesses, and they differ essentially from the theory of the tonsil as an agency for immunization which is offered here for serious consideration.

The hypertrophied tonsil often cannot be distinguished by the naked eye, or by palpation, as being of the fibrous or the lymphatic type. It may combine the features of both forms. The fibrous tonsil, as we know, is usually seen in the adult. Ten years ago, whenever I saw one I urged operation. Not strangely, many adults decline operations on themselves, unless some immediate and dire danger is presenting. As a result, I have seen many a protruding member in the fauces of adults which never had caused and I believe never would cause, serious trouble of any sort—provided, as I have said, nasal breathing is free and unobstructed, the preservation of which latter function, it is my conviction, is the real crux of a very large proportion of this vastly important tonsil problem.

The majority of the cases of recurrent quinsy which have come under my observation have been associated with the so-called submerged and ragged tonsils, or the roughly flat formations, densely adherent to the pillars. These are the cases which merit prompt and thorough surgical attention, but on account of the difficulties in-

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volved, and with which we are familiar, these are also the cases in which too much careless and incomplete work is done on the tonsils. And, *per contra,* on account of the comparative ease with which the firm protruding type is handled, there is, I believe, entirely too much radical work done on them.

So, too, in the case of the adenoid. A relatively small adenoid formation in Rosenmüller's fossa can do much more mischief—to the ears, throat and entire economy—than a much larger hypertrophy in the vault or on the posterior pharyngeal wall, which does not cause obstructive or irritant symptoms. In the absence of the latter I never remove an adenoid from the vault or the posterior wall, but I always see to it that the fossæ are clear. Even slight obstruction of these tracts is fraught with far-reaching consequences. So then, if these premises be true, even in an adult a tonsil or an adenoid, just because it is a tonsil or an adenoid, should not appear to the surgeon as a red rag to a bull.

I doubt if there is a surgeon who will not admit having seen many excellent and permanent results following tonsillotomy; yet, many plead for tonsillectomy as a routine procedure. Do they practice what they preach? If they do they are wrong, for they admit the frequent efficacy of the simpler measure; and if they don't they are wrong again, for then they are misleading those whom they should teach aright. That, at least, is a seemingly reasonable conclusion.

That the tonsil sometimes transmits infection—being the familiar "portal of infection"—we cannot doubt, but that its presence in the highest type of life is undesigned in Nature's scheme of type variation, and its elimination from the complex organism of man immaterial, is at least open to very serious question.

CEREBELLO-PONTILE TUMOR DIAGNOSED FOR SIX YEARS AS TIC DOULOUREUX

THE SYMPTOMS OF IRRITATION OF THE NINTH AND TWELFTH CRANIAL NERVES *

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The diagnosis of tumors in the cerebello-pontile angle or of tic douloureux, as a rule, does not offer much difficulty, but that a tumor of the cerebello-pontile angle should be diagnosed as tic douloureux for six years is somewhat remarkable. In spite of numerous operations, including removal of the ganglion and cutting of the sensory root, the pains persisted and were considered functional. The mistake in the diagnosis was due to the failure of recognition that the pains were the result of irritation of the roots of the glossopharyngeus. The case offered opportunity for physiologic study of the functions of the ninth and twelfth cranial nerves.

REPORT OF CASE

CLINICAL HISTORY

The patient, T., aged 35, a man with negative family and personal history, in 1903 first began to have pain in the right upper teeth, for which he consulted a dentist. A tooth was extracted, but the pain continued, and in a short time every tooth in the right upper jaw was removed. The patient soon complained of pain in the right upper jaw, teeth, nose, eye and forehead, and was admitted to a hospital where five peripheral operations were done in the infra-orbital foramen, but with no beneficial results. In 1907 he first came under my observation, having then had pain for four years and with the above history.

When examined the patient had pain of a sharp shooting character in the right side of the face which began at the angle of the nose, spread to the eye, temple and forehead and also involved the upper jaw; he described the onset as a wave of hot water to the eye and teeth. At that time the pain would come on about every three to five minutes and in his best period every hour. The whole upper jaw was tender and touch on any of the teeth or the roof of the mouth by the patient's tongue, in fact, any irritation over the oral and nasal membrane or over the jaw would produce a spasm of pain. Further examination at this time showed that there was a small area of anesthesia at the site of the old operations underneath the right eye, the patient having a leathery feeling over the rest of his face. Sensation in the mucous membrane of the right nostril was slightly obtunded, but there was no disturbance in the sensation of the tongue, and taste and smell were normal. The motor fifth was intact, the facial nerve showed no disturbance and the tongue was normal. There was, however, palsy of the external and superior rectus and inferior oblique muscles of the right eye, this being supposedly due to the previous operations.

The patient was then again operated on, the inferior dental branch being removed. After this operation for the first time the pain began to run down the right side of the tongue and an attempt was made to remove the Gasserian ganglion. This was done in two stages. The ganglion was exposed and the third division cut, but when traction was made preparatory to its removal the patient suddenly collapsed.

The patient recovered from this operation but the pain persisted and in addition he complained of pain in the eye as of a foreign body and as if his tongue was being burned. After this operation he also had loss of sensation over the inferior maxillary distribution and for a larger area over the infra-orbital region, and loss of taste over the right side of the tongue; he could not close the right eye or wrinkle his brow. The lower part of the face seemed intact. Subsequent to this operation injections of alcohol were made repeatedly over the distribution of the fifth nerve, but while the patient had some benefit for a half hour or an hour, the pain would return.

He was then admitted to another hospital, Feb. 13, 1907, where examination showed a paralysis of the right superior rectus and superior oblique. The form fields, fundus and vision were normal. Smell was normal but taste was lost on the entire right side of the tongue. Sensation to touch and pain was lost in the distribution of the infra-orbital and inferior maxillary divisions of the right side. There was no sensation on the right side of the tongue above and below, or on the oral surface of the right cheek. Deep palpation, however, over the molar prominence and the angle of the jaw elicited pain.

A Gasserian ganglion operation was again attempted and the foramen ovale and rotundum reached and the dura over the ganglion reflected by a small incision. The dura, including the sensory and motor roots, was divided. The ganglion was lifted forward and the third division was found divided at its foramen. The second division was intact and divided. The ganglion was cut away with scissors as nearly entirely as possible, and, as was found post mortem, that part remained which was attached to the ophthalmic division, this branch being intact.

The patient made an excellent surgical recovery and anesthesia was found in the distribution of the right fifth nerve. For two days after the operation the patient did not feel any pain; then he began to complain of pain under the right jaw and right side of throat, which was considered functional. From this time on the pain in the throat and lower jaw was never absent. In a few days the right cornea became injected and beginning ulceration was present. From this time on either the eye was kept closed or he wore a shield, but the moment it was exposed it became red and injected and a keratitis gradually developed. At no time was sight impaired or were there any fundus changes. The patient subsequently became somewhat careless and two years after the ganglion operation, in 1909, the eye was removed.

* From the Laboratory of Neuropathology, Medico-Chirurgical College; read before the Philadelphia Neurological Society, February, 1910.

Because of the fact that the patient complained of pain in a tooth in the lower jaw it was bored and pulled without pain; also an incision about three inches in length was made along the posterior border of the sternocleidomastoid muscle, and the posterior auricular nerve was isolated and a part of it removed. The lesser occipital nerve was also isolated and injected with alcohol. The patient made a good recovery and for a few days had no pain; then he again began to complain of an unpleasant tickling sensation in the right side of the face near the nose, but his complaints were considered altogether as functional and he was discharged from this hospital.

In a few months he was again admitted to a hospital, then complaining of pain in the face, throat and tongue and a form of paresthesia in the mouth, a sensation as if roaches were climbing through the oral cavity. The right lingual nerve was removed by Thiersch's method, but the identical symptoms were complained of after the operation as before and just as severely. From this time on many alcoholic injections were made into the second and third branches, and also into the seventh nerve, but as before the patient would feel well for a few minutes, the pain then returning just as severely.

About a year after the removal of the ganglion the pain was much worse than it was before the operation; he now complained of sharp stinging pains which started in the back of the right side of the tongue and extended to the right ear and down the right side of the throat, the pain being so severe at times as to extend to the shoulder and cause him to turn his head and neck to the right. These would last for a few minutes and were usually succeeded by a burning sensation in the same parts. He had besides a constant burning feeling in his tongue and throat and sensations as if roaches were crawling over these parts and his throat was constantly dry. Repeated nose and throat examinations never demonstrated any weakness in the action of the palate, pharynx or larynx, but these parts as well as the tongue were excessively tender and touch would always bring on an attack of pain. He could not eat a meal without pain and the act of swallowing always brought it on. Examination for sensation at this time, a year after the ganglion operation, showed typical anesthesia over the face, tongue and inner cheek.

About a year before his death the patient first complained of involuntary movements of his tongue, stating that it would go in a spasm and he had no power to control it. When they came on he had no control over his tongue and he often would open his mouth and watch them in a mirror. They lasted for varying lengths of time but he could always bring them on by a forcible action. They consisted principally in an up-and-down movement; the tip of the tongue would be deviated to the right against the teeth or cheek, would rise up, bend in the middle and then roll over to the right, the movement on the right side of the tongue being much more forcible than that on the left. The tongue was never projected beyond the teeth.

The patient never complained of pain elsewhere or of nausea, vomiting or dizziness; and examination of his left (remaining eye) never showed ophthalmoscopic changes. At times, according to his wife, he did complain of an odd sensation as if he was going to fall and at one time he staggered as if drunk. He never complained of noises in his ear but said that his right ear felt numb. There never were disturbances of hearing. For about a year before his death he also had twitchings in the lower part of his face, the upper part being permanently weak. He had also some weakness of the external rectus muscle but had no diplopia.

He was all this time under treatment, alcohol being injected almost daily into the second and third divisions of the fifth nerve. His pain would cease sometimes as long as twenty-four hours and the twitching in his tongue would also stop. He was operated on again in another hospital but with no results. Finally about a month before his death he left this institution and wandered about the city until he was picked up by the police at 2 o'clock in the morning not knowing where he was. He then became stupid and was unable to tell his name or recognize the members of his family. He walked with an uncertain gait, leaning to the right, and would take no interest in anything but when sitting would stare before him, his body gradually inclining to the right. He could not feed himself, although he would attempt to swallow.

Examination showed no evidence of motor weakness. The reflexes in both legs were present and equal. He did not complain of pain anywhere for the first time in six years, but this was because of his stupidity. From this time until his death in about a month he became progressively more stupid and developed incontinence of urine and feces. His head became slowly rigid, his arms flexed and legs extended, Kernig's sign was present and he showed all the symptoms of a meningitis. It was thought that this was probably purulent and that his whole condition was the result of a purulent infection, inasmuch as the cavity of the right eye was full of pus. Lumbar puncture was negative. He finally died six years after the beginning of his pain.

AUTOPSY

The necropsy was performed by Dr. Joseph McFarland, who found part of the Gasserian ganglion remaining; attached to it was the ophthalmic division. A tumor was found in the right cerebello-pontile angle, lying directly on the sensory and motor root of the fifth nerve. It was round, hard to touch and measured 1⅛ inch in its transverse diameter, ⅞ inch antero-posteriorly and in depth ¾ inch. In its growth it separated the seventh and eighth nerve, the former being flattened out and attached to the anterior basal surface, while the eighth was adherent posteriorly. The sixth nerve grew across the basal part of the tumor. The growth was directly in the cerebello-pontile angle, and compressed the middle cerebellar peduncle, the flocculus and anterior part of the cerebellum and the anterior right side of the pons, making a distinct groove for itself in these structures. In its growth it evidently separated the pons and medulla from the cerebellum, thereby stretching the ninth and tenth roots, which were very prominent. It was, of course, impossible to tell at the necropsy whether the twelfth nerve was stretched. When the brain was removed the right fifth nerve was attached similarly to its fellow. An area of softening was found in the apex and basal portion of the right temporal lobe, which evidently was the result of injury in one of the Gasserian operations. The spinal cord was normal and there was no meningitis.

Microscopic Examination.—The tumor on microscopic examination was found to be very hemorrhagic, its center being composed entirely of blood-cells and pigment. The outside of the tumor was composed of fibrous tissue and cells whose nuclei were round, oval or spindle-shaped and appeared granular by the acid stains, occupying most of the cell, there being very little protoplasm. The growth was probably sarcomatous.

For the sake of preserving the specimen, no attempt was made to cut the pons below the entrance of the fifth root. Sections of the pons and medulla above the entrance of the fifth root showed no secondary degeneration by the Marchi or Weigert methods. The cells of the mesencephalic root of the fifth nerve were normal. The pia covering the right side of the pons and peduncle, the side of the tumor, and to a less extent anteriorly, was considerably thickened and infiltrated with cells similar in appearance to those of the tumor.

Cranial Nerves.—The left cranial nerves were normal. Of the right, the optic nerve was normal, but the third, fourth, sixth, seventh, eighth and twelfth were slightly degenerated. There was a slight pial infiltration within the pial covering of these nerves, the cells having the appearance of those found within the tumor. The ninth root (for this the anterior fasciculus of the root was taken), was normal. The eleventh nerve was also normal.

The right fifth nerve was cut in various parts. First, that part was taken which was farthest away from the tumor. In this section, both the motor and sensory roots could be seen. In the motor there were found distinct evidences of regeneration, while in the sensory here and there, there were well-defined myelin sheaths and axis cylinders, although most of the sensory root was degenerated. Further sections of the motor and sensory roots showed a similar condition to that already described. It is my intention to discuss the question of regeneration in the sensory root of the fifth nerve in a subsequent communication.

Sections of the spinal cord of all portions stained by the Marchi and Weigert methods showed no secondary degeneration. There was no meningitis.

COMMENT

In the discussion the various factors which render this case important will be taken up in order. First, the question of diagnosis:

It is remarkable that a tumor in the cerebello-pontile angle should for almost six years remain undiagnosed. In the present instance, the tumor, a sarcoma, apparently grew very slowly and seemed to press first on the sensory fifth nerve root, causing the symptoms of tic douloureux. This was the patient's only complaint, at least for the first few years, and when he first came under my observation the case seemed to be a well-marked one of this kind. The patient did present some implication of the sixth and third nerves, but this was thought to be the result of the numerous peripheral operations to which he had been submitted, and no suspicion was entertained of a tumor. After several attempts part of the Gasserian ganglion was removed and the sensory roots cut and the patient seemed to have cessation of pain for two days; then he again complained of pain in the face and in the neck and lower jaw. For this the posterior auricular nerve was isolated and a part removed and the lesser occipital nerve injected with alcohol. Subsequently the right lingual nerve was removed and the patient had innumerable alcoholic injections in the distribution of the fifth, seventh and upper cervical nerves, but with no result. In spite of all these measures the pains persisted, and although they were regarded as functional, after the second ganglion operation I suggested the diagnosis of a cerebello-pontile angle tumor pressing on the fifth nerve; although the pains, which in view of the necropsy, were found to be referable to irritation of the ninth nerve, were never properly diagnosed.

There was perhaps some ground for the thought that the pains were of functional origin. First of all, after the second ganglion operation in which the sensory root was cut and until his death, the patient had the typical disturbances of sensation in the fifth nerve distribution, and in spite of this he complained of pain in these parts. Of the many physicians who saw him—and he was studied in every teaching institution and in most of the hospitals in the city—no one thought that the pains might be due to irritation of the ninth nerve, for it is not generally recognized that the sensory distribution of the fifth and ninth nerves intermingle; and this is the important fact that this case teaches. It is therefore presumable that irritation of either cranial nerve will cause pain to some extent in the distribution of the other.

The symptoms of irritation of the glossopharyngeus or ninth nerve, which were due to the fact that the tumor in its growth pushed outward the right lateral lobe of the cerebellum, in this way stretching the ninth and tenth roots, as can be seen in the illustration (Fig. 1) have not been recorded so far as I am aware, although from my experience in this case I am inclined to believe that they have been overlooked, for this patient had for at least two years the symptoms of such irritation. While both the ninth and tenth nerves were stretched, it is probable that the ninth suffered more, especially as the tumor was in direct contact with the anterior ninth roots and pressed on them to some degree. Because of the possible implication of the vagus, the symptoms referable to the ninth cannot be differentiated as clearly as they might be, although it is justifiable to exclude the tenth nerve, for there never were symptoms present referable to its distribution with the exception of possible implication of the auricular branch which supplies the posterior and inferior part of the external auditory meatus and possibly a portion of the concha and the postero-medial surface of the auricle; and the posterior segment of the tympanic membrane, although this is supposed by some to be in the distribution of the glossopharyngeal. The patient never had difficulty in swallowing or in phonation and repeated throat examinations never demonstrated lesions either in the pharynx or larynx. No disturbances were noticed in the viscera, heart or lungs.

It is important to differentiate the sensory disturbances resulting from lesions of the trigeminus because they intermingle with the sensory disturbances of the ninth. As has been stated, the patient at first had pains only in the parts usually irritated by the fifth. After the first ganglion operation, in which the third or inferior division was cut, there was loss of taste in both the anterior and posterior parts of the tongue. Apparently, then, in this case the glossopharyngeus had no relation to the sense of taste.

After the second ganglion operation in which the posterior roots were also cut the patient had typical loss of sensation in the distribution of the fifth nerve. Figure 2, from a photograph which was made one month after this operation and several days after the excision of the posterior auricular nerve and alcoholic injection into the lesser occipital, shows a typical disturbance of sensation. The inner line of the same photograph shows the area of disturbed sensation one year afterward, displaying the typical regression of sensation which is usually found in such cases; this leaves no doubt at all that the sensory root was cut. The patient had besides loss of taste and of all forms of sensation over the anterior and posterior part of the right side of the tongue and over the oral surface of the right cheek. The assumption, then, is justifiable that all the pains which the patient complained of subsequent to the removal of most of the ganglion were the result of irritation of the ninth nerve.

Whatever doubt there might have been that the pains were the result of irritation of the so-called sensory root of the seventh nerve or the nerve of Wrisberg were removed by the fact that on a number of occasions alcoholic injections were made into the seventh nerve but with no alleviation of pain. Again Mills[1] has proved that the seventh nerve is purely motor and has no sensory functions, contrary to the views of Hunt.[2]

According to Oppenheim[3] the sensory fibers of the ninth nerve go to the pharynx, tonsils and posterior part of the palate, tympanic cavity, Eustachian tube and the posterior part of the tongue, but it is impossible to differentiate the distribution of the ninth because some of the same structures are innervated also by the trigeminus; there is no question, however, that the pharynx is innervated by the ninth nerve. He is in doubt as to whether the taste fibers in the posterior part of the tongue have any relation to the ninth nerve. The motor part supplies part of the muscles of the pharynx without it being definitely established which. Réthi believes that it supplies only the stylopharyngeus; and Kreidl thinks that the esophagus is partially supplied by it. It is also possible that secretory fibers are present which go to the parotid gland. Oppenheim cites an excellent case of paralysis in the distribution of the ninth nerve. The patient, a woman, had loss of taste in the pharynx and posterior part of the tongue and incorrect temperature appreciation in these parts. Especially was it noticed that in breathing and swallowing she had no appreciation of the temperature of the air and water. Objective

1. Mills, C. K.: Sensory Functions Attributed to the Seventh Nerve, Jour. Nerv. and Ment. Dis., May, 1910.
2. Hunt, J. R.: Jour. Nerv. and Ment. Dis., February, 1907.
3. Oppenheim: Lehrbuch. der Nervenkrankheiten, Ed. 3.

examination showed a paresis of the palate and pharyngeal muscles, with diminished reflex excitation of these parts, loss of taste in the soft palate, pharynx and posterior part of the tongue, as well as loss of temperature sensation, whereas touch was normal.

Mills also describes a patient of 24 who one month after she had diptheria began to have difficulty in swallowing with regurgitation of liquids through the nose and an indefinite feeling of numbness on the affected side of the face. She had besides a superficial right facial palsy with a loss of sensation over the chorda tympani area of the tongue and diminished sensation around the Eustachian tube opening. There was also relaxation of the faucial arch and diminution of sensation over the right pillars and right pharyngeal wall. The muscles of adduction were weak in their action and during quiet respiration the right side of the larynx was more relaxed than the left. He attributed the loss of sensation to involvement of the ninth with a possible implication of the tenth and fifth nerves.

In my patient the pains were always on the right side and in the whole course of the disease he never complained of them on the left. They were chiefly localized to the back of the tongue or, as he expressed it, to the "root" and ran down his throat and to his ear. He always complained of a burning feeling in his throat and occasionally of sensations which he likened to the crawling of roaches or flies, of a constant dryness and of a feeling like hot or ice-cold water. He had, besides, sharp, shooting, stinging pains which started in the back of the right side of the tongue and ran to the right ear and down the right side of his throat and, when they were exceptionally severe, to the shoulder. These lasted only for a few minutes, were sometimes agonizing, and nearly always caused him to turn his head and neck to the right. Eating, especially in the last year of his illness, would always cause him pain, and his wife does not remember a single meal that he ate during this time in which he did not have attacks of pain. He did not have difficulty in swallowing and he never choked. The pains while eating were brought on not so much by the chewing as by the contact of the food with the posterior part of his mouth and by swallowing. Occasionally the patient would wake up at night, the pain in the throat being so severe that he felt as if he would choke to death; he felt at times as if the throat were closed. These pains and paresthesias continued to the end.

At no time had he weakness in the motor distribution of the glossopharyngeus. The floor of the mouth was extremely tender, especially in the region of the lingual nerve. The nose, throat and ear were constantly examined and his throat was always found to be excessively tender to touch and there was never loss of the pharyngeal reflexes.

One of the most interesting features of the case were the involuntary movements of the tongue. These appeared about a year before his death and became gradually more severe. They would come on independently, but could be brought on by forcible movement of his tongue. During the spasm he could open or shut his mouth, but could not talk or stop the movement. The movements were principally up and down, or the tip of the tongue would be pushed to the right against the cheek or teeth, or there would be a rising up of the whole tongue with a sort of a rolling, curling movement to the right. In these spasms, while both sides of the tongue acted, the impression was always given to the onlooker that the right side of the tongue was responsible for the movement.

These movements were unquestionably the result of irritation of the roots of the twelfth nerve, and conform somewhat with the results obtained by A. T. Mussen,[4] who found that when he stimulated experimentally the left twelfth root in the medulla the tongue would curl upward and to the right or opposite canine tooth, while stimulation of other fibers caused the tongue to protrude from the angle of the mouth on the same side. He does not state, however, whether he irritated the twelfth root outside the medulla. On stimulation of the left twelfth nerve in the neck there was a strong protrusion of the tongue out of the mouth on the same side. The other reactions were: protrusion of the tip of the tongue strongly to the right or opposite side and curling up of the tip, now to the right, at other times to the left. In the present case the movements were always to the side

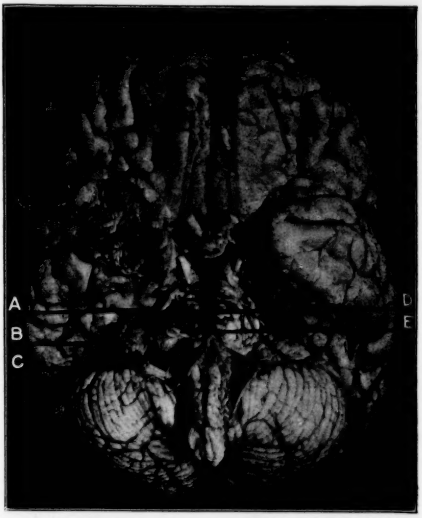


Fig. 1.—Tumor in right cerebello-pontile angle, showing positions of cranial nerves. A, fifth nerve; B, eighth nerve; C, ninth and tenth nerves; D, seventh nerve; E, sixth nerve. Note especially the stretching of the ninth and tenth cranial nerves and pressure on the pons; also, area of softening in apex of right temporal lobe resulting from ganglion operations.

of the irritation and not to the opposite side, and there never was protrusion of the tongue beyond the teeth.

An additional reason that the diagnosis of tumor was not made was the uniform absence of all pressure manifestations while cranial nerve symptoms were not at all commensurate with the pathologic involvement.

The absence of so-called general pressure symptoms of tumor is not, in my experience, unusual and in view of this I have long regarded headache and choked disc as the only reliable pressure symptoms, and even their absence, as this and other cases show, only prove that in the recognition of brain tumor the important factors of diagnosis depend on the specific motor, sensory or special symptoms the result of direct involvement of structures.

4. Mussen, A. T.: Brain, 1909, xxxii, 266.

One of the remarkable features of the case was that the tumor, as can be seen in the illustration, pressed on the right anterior part of the pons and made a distinct groove for itself, and yet weakness was never present in the limbs of the opposite side. Microscopically there was no degeneration in the motor fibers either by the Marchi or Weigert methods. It is evident from this that the tumor must have been of slow growth and that the fibers in the pons accommodated themselves to the gradual pressure.

When the patient first came under my observation some of the ocular muscles innervated by the third nerve were paralyzed, which was regarded as the result of some of the previous operations. Microscopic examination, however, demonstrated that there was a cellular infiltration in the pial covering of the right side of the pons and peduncle; this implicated also the third and fourth cranial nerves and no doubt caused the paralysis. A

Fig. 2.—Outer line shows area of loss of sensation one month after cutting of sensory root and excision of part of the posterior auricular nerve. Inner line shows area of loss of sensation one year afterward.

similar condition was found within the fifth, sixth, seventh, eighth and twelfth cranial nerves. Such a condition is very unusual, for in most cases of tumor in the cerebello-pontile angle an accompanying pial infiltration is not present; it further emphasizes the unusual character of this case.

The sixth nerve was attached to the growth and must have been pressed on, but diplopia was not present until about five years after the onset of the symptoms, and then only at times. The nerve was partially degenerated.

When the patient first came under my observation, five years after the beginning of the symptoms, there was no paralysis in the facial distribution. After the first ganglion operation the superior branch was cut and for some time he was unable to wrinkle his brow or to close his eyelid. There was some recovery of power, however, but he was never thereafter fully able to close the eye. In the last year of his illness he had involuntary twitching in the middle and lower facial distribution; these were sometimes fibrillary, then again coarse and spasmodic, and were no doubt due to pressure on the seventh nerve, which was attached to the anterior part of the growth and was partially degenerated. Spasm in the distribution of the facial nerve because of pressure is not at all unusual; I have discussed it previously elsewhere.[3]

The eighth nerve was attached to the tumor and was considerably degenerated. Sections showed numerous tumor cells within the nerve, and yet the patient never had loss of hearing and only occasionally complained of some crackling noises in the ear and never had vertigo or disturbance of equilibration. This is unusual, for in tumors of the cerebello-pontile angle one of the first symptoms of pressure on the eighth nerve consists of some forms of tinnitus, later, disturbance of hearing, and, as in nearly all cases the vestibular part of the eighth nerve is also pressed on, vertigo and disturbance of equilibration.

The development of the trophic ulcer in the eye conforms with the generally accepted view that it is only in those forms in which there is an irritation of the ganglion that a trophic condition of the eye appears. It is also interesting that so long as the eye was covered and protected from the air it remained in good condition and that exposure of the cornea brought on a keratitis. This also is in agreement with the conclusion of others.

It was not until about one month before his death that the patient presented cerebellar symptoms. He was then seen by Dr. Ingham, who noticed that when the patient walked there was a drooping of the head to the right, a distinct drooping of the right shoulder and a tendency to reel toward the right. This also agrees with the usual finding in such cases.

CONCLUSIONS

The important points which this case teaches are the following:

1. Tic douloureux may sometimes be the result of pressure on the sensory root of the fifth nerve by tumor.
2. If after removal of most of the ganglion and cutting of the sensory root and evidences of typical disturbance of sensation in the fifth nerve distribution, pains persist, they are not necessarily functional but may be the result of irritation of the ninth nerve.
3. The sensory distribution of the fifth and ninth cranial nerves intermingle and it is possible that in irritation of one the pains be referred to the distribution of the other.
4. The case demonstrates the physiologic symptoms of irritation of the ninth and twelfth cranial nerves.
5. Tumors in the cerebello-pontile angle, or, in fact, in any portion of the brain, may exist without causing any of the so-called general pressure symptoms.

2030 Chestnut Street.

Etiology of Epiphyseal Separation.—Separation of the upper epiphysis of the humerus is usually caused by direct violence, such as a fall on the shoulder. It has also been reported as a birth injury caused by traction on the arm.—J. M. Berry, in *Albany Medical Annals.*

3. Weisenburg, T. H.: Diagnosis of Tumors and Other Lesions in the Cerebello-Pontile Angle, THE JOURNAL A. M. A., April 18, 1908, l, 1251.

A NEW OPERATION FOR PROLAPSE OF THE UTERUS

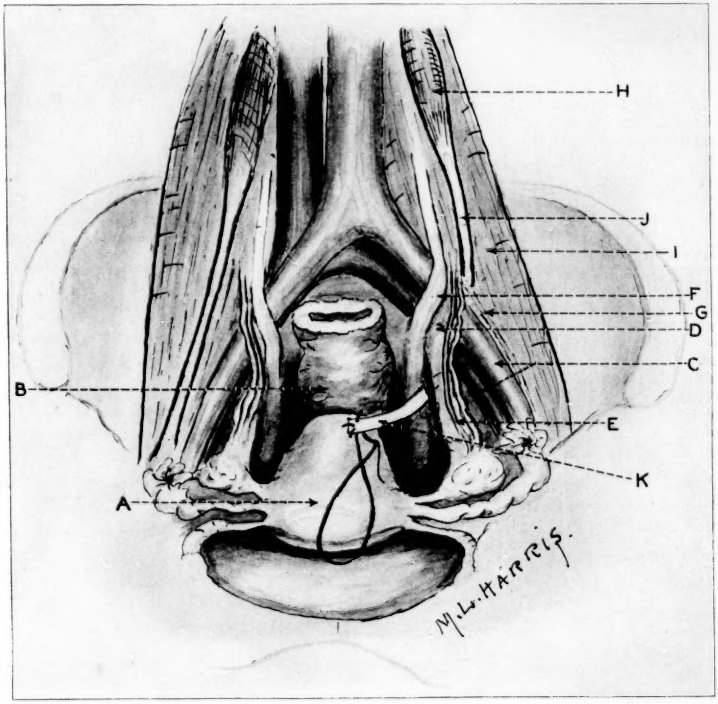
M. L. HARRIS, M.D.
CHICAGO

This is a preliminary report for the purpose of placing on record a new operation for the cure of prolapsus uteri.

The essential factor in the production of prolapse of the uterus is the recession of the cervix from the hollow of the sacrum. The uterus in its normally anteverted position rests with its anterior surface on the bladder and the vagina, which, in turn, are supported by the uterosacral supports are destroyed, allowing the cervix to descend along the vaginal canal, prolapse may occur even in the presence of a good pelvic floor and perineum.

In the usual case of prolapse of any degree from the first to complete procidentia it is found that practically all of the supports of the uterus are more or less altered and hence no single procedure will suffice to effect a cure.

In this brief report no attempt will be made to describe the various operations for the repair of the pelvic floor, or for shortening the round ligaments, etc., but attention will be directed to a new operation for holding the cervix upward and backward in the hollow of



New operation for prolapse of uterus. A, uterus drawn sharply forward. B, rectum. C, external iliac artery and vein. D, internal iliac artery. E, infundibulopelvic ligament. F, ureter. G, genitocrural nerve. H, psoas parvus. I, psoas magnus. J, tendon of psoas parvus before passing beneath the genitocrural nerve and the iliac vessels. K, psoas parvus tendon sutured to posterior surface of cervix.

muscular floor of the pelvis. The broad ligaments spread out laterally like the wings of an aeroplane while the more or less anteverted position of the uterus is maintained by the round ligaments passing lateroanteriorly from the fundus and the uterosacral ligaments passing from the cervix posteriorly.

So long as the uterus is maintained in this position prolapse cannot occur. The perineum and pelvic floor may be torn to almost any degree, allowing all the pelvic organs to sag, but so long as the cervix is held upward and backward in its normal position the uterus will not prolapse. On the other hand, if the the sacrum where it normally belongs. Shortening of the uterosacral ligaments is rather unsatisfactory for the reason that in such cases these ligaments have been so elongated and torn as practically to have disappeared, leaving nothing remaining but loose peritoneum.

It occurred to me that the long tendon of the psoas parvus, a muscle of little use in the human subject, might be made to act as a substitute for the uterosacral ligaments and experiments on the cadaver demonstrated the feasibility of the idea.

The operation is performed as follows: The pelvic cavity is exposed from above in the usual manner by

a median longitudinal or a Pfannenstiel incision with the patient in the Trendelenburg position.

After packing the intestines well out of the way an incision is made through the peritoneum along the course of the tendon of the psoas parvus, which is readily seen as a distinct white band lying on the psoas magnus. The tendon is followed downward and divided at its point of insertion into the pectineal eminence.

Running along almost parallel with the tendon, but well over to the inner border of the psoas magnus, is seen the genitocrural nerve which should be avoided. The finger is inserted through the incision in the peritoneum and passing subperitoneally raises, by blunt dissection, the external iliac artery and vein from the inner border of the psoas magnus and from the brim of the pelvis so that the finger passes along the lateral wall of the pelvis beneath the external iliac vessels and beneath the infundibulo-pelvic ligament until the end of the finger is felt just beneath the peritoneum in a small free triangular space anterior to the internal iliac vessels and anterior and external to the ureter.

The peritoneum is perforated at this point and a curved forceps followed along with the finger as it is withdrawn.

The end of the tendon is caught with the forceps and drawn down into the pelvis.

The same procedure is repeated on the opposite side.

The ends of the two tendons are now firmly sutured to the posterior surface of the cervix well down, as shown in the illustration, and the incision in the peritoneum closed. The tendon, as will be seen, passes beneath the genitocrural nerve, beneath the external iliac vessels, beneath the infundibulo-pelvic ligament and hence beneath the ovarian vessels and nerves, anterior to the internal iliac vessels and into the pelvic cavity above and to the outer side of the ureter; it is thus impossible for it to exert pressure on any of these structures, however, much it may be drawn on.

As is well known, the psoas parvus is not constantly present in the human subject. Should this muscle be absent the operation may be modified by the use of a portion of the psoas magnus.

This muscle begins to become tendinous along its inner border well up to the bifurcation of the common iliac artery. The incision through the peritoneum is made a little nearer the iliac artery and the vessels are raised from the muscle down to the point where the muscle passes over the pubic bone.

A portion of the aponeurotic or semitendinous inner border of the muscle is then cut across at its lower part and raised up as a ribbon-like band about 1.5 to 2 cm. in width and extending upward to about opposite the bifurcation of the common iliac artery. This band is utilized in the same manner as the tendon of the psoas parvus and the operation completed as described above.

The effect of this operation is to suspend the uterus firmly high up in the pelvis with the cervix held well back where it belongs. The uterus is held by an active muscular support possessing all the natural elasticity and resilience of such structures.

I have performed this operation twice on the living subject.

CASE 1.—Mrs. P., aged 29, had a bilateral laceration of the cervix, a unilateral laceration of the puborectalis muscle with a prolapse to the degree that cervix just presented at the vulva with the patient standing. Operation performed April 8, 1910. Cervix and perineum repaired below as usual. On opening the abdomen above the psoas parvus was found absent. The operation was done therefore by using a portion of the psoas magnus as described above. There was no difficulty experienced in carrying out the technic. The round ligaments were then shortened. The patient recovered nicely with the uterus held in normal position.

CASE 2.—Mrs. B., aged 48, mother of 12 children, just passing through menopause, had complete prolapse, the everted vagina and the uterus protruding between the thighs on standing. Operation April 27, 1910. The pelvic floor was repaired in the manner I have described previously in THE JOURNAL, Dec. 9, 1899. On opening the abdomen a good psoas parvus was found and utilized as described above. The round ligaments were then shortened. Anterior colporrhaphy was not done, as it was found that when the cervix was drawn upward and backward where it belonged the cystocele disappeared.

With this operation it is believed that anterior colporrhaphy will be unnecessary in the majority of the cases.

Of course it is too early to show final results in these two cases, but the immediate result of the operation was so satisfactory and the method seems so promising that the operation is described at this time in order that others may try it and its ultimate value thus be determined more quickly.

100 State Street.

TRANSURETHRAL OPERATIONS IN WOMEN

HOWARD A. KELLY, M.D.
BALTIMORE

I believe that the field of transurethral operations through my open cystoscopes is destined in time to become a large one. Given the necessary instruments and a certain amount of skill and precision in using them, there is no reason why a variety of operations should not be done in a simpler manner through the open tube of the cystoscope instead of through a bloody suprapubic or transvaginal incision. It has been my custom

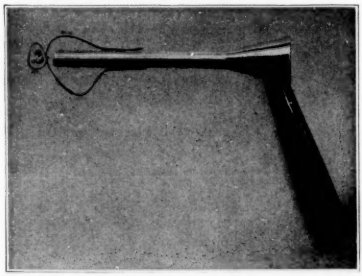


Fig. 1.—Shows the position of the speculum exposing the minute orifice leading into the diverticulum in the posterior wall. A vesical speculum (the actual instrument) reduced to about half natural size rests in a diagrammatic outline representing the urethra and the bladder. The base of the bladder is above, as the patient is presumed to be in the knee-chest posture. Back of the bladder is an outline representing the diverticulum in which the three stones extracted have been inserted.

from the very first discovery and use of my open-air cystoscope early in the nineties to employ this method in the routine of every-day practice for the treatment of ulcerated areas in the bladder by making repeated direct topical applications to the exposed diseased surfaces just as one would treat an ulcerated sore throat. Of this practice I have both spoken and written on numerous occasions. I have also used the open cystoscope to lift small foreign bodies out of the bladder through its lumen with the aid of suitable forceps. One

can also in this way treat papillomata which are not too extensive.

I recently removed several calculi transurethrally by this method from a diverticulum in the bladder and so saved my patient from a cutting operation in the anterior vaginal wall, which she especially dreaded. The extraction of the small stones was effected without any pain whatever, and without using any other anesthetic than a cocain solution injected into the bladder wall, through the speculum as a preliminary.

The operation was done in this wise: the patient, who had suffered from the repeated formation of calculi in the bladder and an accompanying cystitis was being examined in the knee-breast position through my open cystoscope (Fig. 2, No. 1) through the air distended bladder when I remarked the presence of a minute rounded spot on the left posterior (sacral) wall of the bladder, not more than 2 mm. in diameter, with a yellowish center. I had seen this before and had noted a little fluid escaping from it, but took it to be nothing more than a small pocket in the bladder wall, one of the common crypts between somewhat exaggerated trabeculæ. Being intent on making a more careful search on this occasion, however, I was struck by the somewhat peculiar chalky appearance of the center of the opening; a long searcher being introduced (Fig. 2, No. 2) it impinged on something hard and I realized at once that I had to deal with a calculus embedded in a diverticulum, which had been overlooked at every previous examination, both by myself and by others. This interesting find at once offered a full and satisfac-

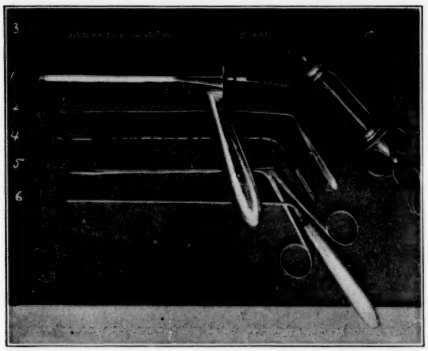


Fig. 2.—Instruments used in transurethral operation. 1. Open cystoscope; (2) long searcher; (3) short needle on a long shank attached to a syringe; (4) long-handled electrocautery knife with bent handle; (5) toothed alligator forceps; (6) blunt, long-handled needle.

tory explanation of the recurring calculi and a lingering infection which never would wholly disappear under treatment. An additional aid in the diagnosis would have been found in a wax-tipped searcher or catheter pushed into a hole which must of necessity have been gouged on one side by contact with the stone. At the operation (extraction) I used a No. 10½ cystoscope, though I would ordinarily recommend the use of sizes up to No. 11 or No. 12 or even much larger as giving more room without including any risk of a consecutive incontinence. The first step, after exposing the little opening through the tube of the cystoscope was to thrust a short needle on a long shank (Fig. 2, No. 3), attached to a syringe into the bladder wall by a sudden stabbing movement, penetrating about 2 mm. Through this I injected a few drops of a 1 per cent solution of cocain on three sides of the opening and about 5 or 6 mm. distant from it. The injection needle was then laid aside and a long-handled electrocautery knife (Fig. 2, No. 4) introduced with a handle bent at an angle so that I could perfectly see just what I was doing all the time it was in the bladder, when it was heated. The narrow blade was carried into the opening and the current turned on and the margin of the opening burned through in a few seconds in about three places to a depth of from 3 to 5 mm. There was

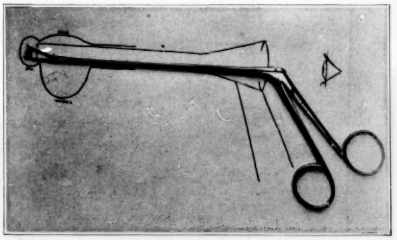


Fig. 3.—The surgeon's eye, the speculum, the urethra, the bladder and the now dilated diverticulum are represented in outline, while the actual alligator forceps used is shown grasping an actual calculus in the act of removing it.

no hemorrhage. This discission opened the pocket sufficiently to expose the calculus and to enable me to grasp it with a pair of toothed alligator forceps (Fig. 2, No. 5). The calculus was soft and broke and was picked out in fragments, when another small calculus was seen looking like a shot about 4 mm. in diameter, which was picked up whole with the alligator forceps and removed. A careful search now revealed the presence of a third calculus embedded in the right wall of the diverticulum; I could just see a limited part of the surface but could not grasp this one with the forceps; so I introduced a blunt, long-handled needle (Fig. 2, No. 6) and worked it around the calculus and peeled back the tissues, until I pried it up out of its bed. I was then able to grasp it too with the forceps and to remove it. The size of the entire diverticulum was now large enough to receive the end of the index finger, not over 1.5 cm. in diameter.

The patient was at once able to move about after the operation and suffered no inconvenience.

I feel sure that it will be possible in the future to treat almost all calculi found in diverticula in this way, that is (1), by exposing the diverticular orifice through an open speculum (2), by cutting the sides so as to open the cul-de-sac with an electro-cautery (3), by extracting the calculi with forceps (4) by examining thoroughly the interior of the cavity through the cystoscope.

This method is applicable to the male as well as to the female bladder.

1418 Eutaw Place.

Roentgen-Ray Treatment.—Some failures to benefit patients suffering with diseases usually amenable to *x*-radiations may be due to too vigorous treatment, thereby inducing too severe negative phases.—A. F. Holding, in *Albany Medical Annals.*

RADICAL OPERATION FOR CANCER OF THE PYLORIC END OF THE STOMACH

REVIEW OF 266 PARTIAL GASTRECTOMIES

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Surgeon to St. Mary's Hospital
ROCHESTER, MINN.

The operation of partial gastrectomy and pylorectomy has been performed in St. Mary's Hospital, Rochester, Minn., 266 times (C. H. and W. J. Mayo, April 21, 1897 to Jan. 27, 1910) with thirty-four deaths, an average mortality of 12.4 per cent. During the year 1909 there were forty-six operations with four deaths, an average mortality of 8.6 per cent. Forty-two of the 266 operations were performed for benign tumors, or ulcers, or the diagnosis was not microscopically established; they have, therefore been excluded from the statistics.

Fig. 1.—Anatomy of the stomach with especial reference to the blood-vessels and lymphatics. The arrows indicate the direction of the lymphatic flow.
The drawings are by Dorothy Peters.

TABLE 1.—OPERATIONS FOR CARCINOMA INVOLVING THE PYLORIC END OF THE STOMACH

Total number	224
Males	163
Females	61
Age of oldest	81
Age of youngest	30
Average age	53
PATIENTS OPERATED ON OVER FIVE YEARS AGO	
Total number	50
Present condition known	39
Alive and well (one 8 years 2½ months; one 8 years; *one 7 years, 2 months; one 6 years; one 6 years, 11 months; one 5 years, 3½ months; one 5 years..	8
* Has since died of recurrence.	
PATIENTS OPERATED ON OVER FOUR YEARS AGO	
Total number	85
Present condition known	64
Alive and well	13
PATIENTS OPERATED ON OVER THREE YEARS AGO	
Total number	117
Present condition known	88
Alive and well	18
PATIENTS OPERATED ON LESS THAN THREE YEARS AGO	
Total number	107

Cases in the last group (operations less than three years ago) are too recent to be of any statistical value as to the question of cure.

Partial gastrectomy for the cure of malignant disease of the stomach has never been favorably accepted, and, considering that this organ is more frequently the seat of cancer than any other in the human body, the percentage of operations has been exceedingly small. The reluctance of practitioners to advise and of surgeons to practice partial gastrectomy is based on several considerations: First, in the greater number of cases the disease cannot be diagnosticated in time to affect a radical cure. Second the operation itself has an immediate mortality which is high in proportion to the ultimate prospect of cure. I do not believe this pessimism to be justified by the facts.

It is my intention, not to go into the details of the diagnosis of gastric cancer, but to call attention to two important indications for operation, which, if observed early, will be the means of securing a number of patients in time to benefit them. 1. Food remnants found repeatedly in the stomach after twelve hours, when taken in connection with the clinical history, should indicate a surgical consultation and, in the large majority of cases, this special investigation will lead to an exploratory operation. 2. The finding of a movable tumor in the pyloric end of the stomach has a surgical significance which cannot be overestimated. It is a great mistake to suppose that the presence of a movable tumor, palpable through the abdominal wall, is indicative of a hopeless condition. While it is true that ulcer and its results often give rise to gastric retention and occasionally to tumor, other things being equal, surgical relief is quite necessary in these cases.

Without in any way minimizing the value of laboratory examinations of the stomach contents etc., I am more and more convinced that gastric cancer itself does not give rise to diagnostic symptoms during the curable stage. In the later stages the clinical picture and laboratory findings are characteristic; by this time, unfortunately, the prognosis is equally as plain as the diagnosis, but, if the disease is situated in the pyloric end of the stomach, it early introduces mechanical conditions which furnish the most valuable information.

Heretofore we have asked for a diagnosis in carcinoma of the stomach and have shifted the burden of responsibility to the internist. In the future let us ask, rather, for surgical consultation in all cases showing evidences of mechanical obstruction or tumor.

So much can be said concerning the doubtful group of cancers from which we obtain our cases in which cure is possible; but what shall be said as to the desirability of operation in advanced cases? Partial gastrectomy offers a number of months of apparent cure, even when it is impossible to remove all of the involved lymphatics, and with a mortality but slightly above that of gastrojejunostomy which, at best, gives only a few months of more or less uncomfortable existence.

Mikulicz has called special attention to the marked palliation which is produced by removal of the sloughing mass, as contrasted with methods which look only to overcoming the obstruction.

In a high percentage of cases, cancer of the stomach is, at the first examination, plainly inoperable, and without exploration, other cases are doubtful.

Palmer studied the histories of 335 patients suffering from cancer of the digestive tract, who presented themselves at our clinic between Jan. 1, 1908 and Sept. 1, 1909, and found the following definite signs of metastasis: (1) implantation carcinoma of the sigmoid, "the rectal shelf of Blumer"; (2) supraclavicular metastasis; (3) carcinomatous involvement of the umbilicus (buttonlike umbilicus); (4) free fluid in the peritoneum. These various conditions, by reason of the metastasis alone, eliminated about 12 per cent. of the total number as hopeless at the time of the primary examination.

Fig. 2.—Vessels ligated and lymphatic dissection completed.

TABLE 2.—CASES OF CANCER OF THE STOMACH EXAMINED IN THE CLINIC BETWEEN JAN. 1, 1908, AND SEPT. 1, 1909

Total number	335
Hopeless and not admitted to the hospital	146
Resections	78
Gastrojejunostomies	39
Excision malignant ulcer	2
Exploration inoperable disease	70
	335

TECHNIC OF OPERATION

As regards the technic of pylorectomy and partial gastrectomy, I have little to present that is new. An effort should always be made to remove the lymphatic area whether it is diseased or not. The general rule holds good, in the earlier stages at least, that the glandular involvement follows the regular lymphatic routes to the four primary groups of lymphatic glands into which the pyloric end of the stomach drains. We have observed, both in cancer and in ulcer, that when there was glandular involvement of only moderate degree, the evident adenopathy was usually confined to the glandular groups which accompany the four arteries, the superior pyloric, the gastric, the gastroduodenal and gastroepiploic. The lymphatics in this region eventually drain into the celiac and pre-aortic glands but by routes that are far from regular. Wilson and MacCarty, in a study of the lymphatics in a large number of cases in which we had made partial gastrectomy, have found a curious tendency of the disease to pass by certain glands, and have demonstrated that carcinomatous emboli in the early stages do not necessarily involve glands one after another, but may primarily pass into glands at a considerable distance.

Explorations and palliative gastrectomies have given me opportunities to note the glandular involvement in the late stages of the disease. In such cases, due either to unsuspected primary lymphatic connections or obstruction to the regular lymphatic channels causing extension along bypaths, I have seen involvement of the glands in the transverse mesocolon, the glands about the common duct, those along the upper border of the pancreas, and in other situations It is evident, therefore, that removal of the lymphatic area in gastric cancer is not a simple proposition and it indicates only too clearly that to secure the best results, the disease must be removed before the lymphatics are infected.

Prophylaxis of gastric cancer can be aided by the excision of calloused ulcers of the stomach. In the 266 cases in which we have performed resection, Wilson and MacCarty examined histologically 218, and were able to show that 71 per cent. of the cancers had their origin in chronic gastric ulcer.

We have seen primary cancer of the duodenum in but five cases, and in only one of these did it appear that the cancer might have its origin in previous ulcer of the duodenum. This justifies the belief that gastrojejunostomy is the operation of choice for duodenal ulcer. In two instances, however, we found a gastric cancer which apparently had its origin on the gastric side of a duodenal ulcer which involved the pylorus. For gastric ulcer, the removal of the ulcer itself would seem to be the only safe procedure. We have practiced this for several years wherever it seemed possible and in a number of instances have unexpectedly found cancer on ulcer in the early stage.

Fig. 3.—Clamps placed on the stomach and duodenum, isolating the pyloric end and lesser curvature.

The fundus of the stomach, like the fundus of other organs as contrasted with the neck, is not largely supplied with lymphatics, and those present lie, to a large extent, in the vicinity of the cardiac orifice. The fundus, from a line about opposite the cardia, passes its lymph-streams upward into the lymphatic glands about the cardia and to the left to the glands lying in the vicinity of the spleen, making a rather sharp lymphatic demarcation between the fundus and the pyloric end of the stomach. This indicates the amount of stomach necessary to be removed in pyloric cancer and makes pylorectomy and partial gastrectomy a fairly definite procedure. (Fig. 1).

A typical resection necessitates the removal of all of that part of the stomach lying to the right of a line dropped vertically from the cardiac orifice, although in some cases more of the fundus must be removed on account of direct extension of the disease. It sometimes happens that either the anterior or the posterior wall is more extensively diseased than the other. In this event we have not found it difficult to remove more of the diseased wall of one than the other, and to throw the suture line anterior or posterior as the necessity may indicate.

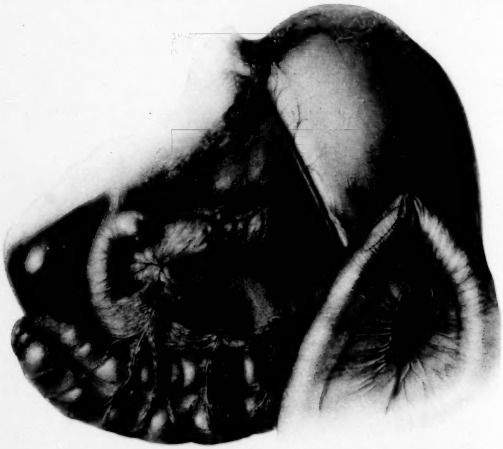

Fig. 4.—Restoration of gastro-intestinal continuity by an anterior gastro-enterostomy, which may be used in place of the posterior operation when the remaining stomach pouch is very small.

Billroth, to whose far-sighted pioneer work in gastric surgery we owe so much, had to contend with shock from loss of blood, which is now obviated by primary ligation of the blood-vessels. From a technical standpoint, the glands and gland-bearing fascia can best be removed at the time the blood-vessels are ligated, and the early ligation of these vessels not only makes the part of the stomach to be removed avascular, but also separates it from its connections so that the succeeding steps in the operation are greatly facilitated.

The blood-vessels are four in number, each accompanied by definite lymphatic channels and glands. These blood-vessels have their origin from the celiac axis, the gastric artery directly from the celiac axis, the superior pyloric and gastroduodenal by way of the hepatic artery, and the left gastro-epiploic from the splenic artery. As a general rule it will be most convenient to make the separation of the superior border of the stomach first, beginning the operation by (a) ligation of the superior pyloric vessel, (b) the gastric, (c) the left gastro-epiploic, (d) the gastro-duodenal vessels. As each vessel is secured, the glandular separation is effected. The procedure is as follows: (Fig. 2).

Step 1.—An opening is made through the gastrohepatic omentum into the lesser cavity of the peritoneum. The superior pyloric artery is isolated at as great a distance as possible from the duodenum and is double-tied and divided between. The terminal branches are dissected upward from the duodenum so that they hang with the glands and fat attached about the pyloric ring. This frees the superior border of the duodenum for an inch and a half or two inches. The glands accompanying the superior pyloric artery are very often involved, and it should be remembered in separating them that the common duct lies in close proximity and may be exposed to injury. In one case I accidentally cut the common duct through three-fourths of its circumference transversely. It was sutured with catgut and a separate drain through a stab wound employed through which there was a biliary discharge for nearly three weeks. On two occasions I found the gall-bladder attached by the fundus to a pyloric growth and it was removed without difficulty as it lay attached. Adhesions to the liver, if present, are separated at this stage of the operation.

Step 2.—The stomach is drawn downward and to the right and the gastric artery is caught at the highest possible point. In thin subjects it may be ligated close to the celiac axis, but in the average case it will be most easily isolated just distal to the large branch which leads up to the esophagus and cardia.

This ligation is usually made from a needle with two independent ties of catgut, as the tissues are liable to retract—and if the ligature slips it is difficult to catch the artery, as I have reason to know. The anterior and posterior gastric branches are caught and tied in such a manner that the fat and glands, and distal part of the vessel can be dissected free from the upper part of the lesser curvature and a space an inch and a half in extent next to the cardiac orifice is exposed. This dissection should be very carefully made, because, as pointed out by Hartman and Mikulicz, it is essential that the whole of the lesser curvature to a point close to the cardiac orifice shall be removed. To a considerable extent the lymphatics lie in the wall of the stomach, and as demonstrated by Cunio, a large majority of pyloric cancers spread upward along the lesser curvature, and the failure to remove involved stomach is most apt to occur in this situation.

Step 3.—Careful examination is now made on the greater curvature for the glands which begin at a point about opposite the cardia. These glands are usually visible even when not diseased. The left gastro-epiploic vessels are caught and double-tied to the left of these glands, and the anterior and posterior gastric vessels caught and tied as they come from the stomach, and the greater curvature cleared for a space of at least an inch and a half. The transverse colon is drawn well into view so that the middle colic artery can be examined at frequent intervals to avoid injury, and the gastro-epiploic vessels tied with the gastrocolic omentum in sections from left to right sufficiently close to the transverse colon to leave the glands lying on the vessels of the greater curvature by a good margin. As this dissection proceeds it will sometimes be found that the avascular area which lies in the circle of the middle colic vessel and the posterior layer of the mesocolic peritoneum is attached to the growth. If this is the case the attached peritoneum can be cut out and removed with the growth. The opening thus made in the transverse mesocolon can be used later through which to make the gastrojejunostomy. As the dissection proceeds to the right the middle colic artery is care-

fully exposed and traced to its origin in the superior mesenteric artery just at the lower edge of the pancreas, otherwise it may be accidentally injured. Kronlein has shown that in three out of four cases obliteration of the middle colic vessel will lead to gangrene of a portion of the transverse colon and necessitate a coincident resection.

Step 4.—Removal of the inferior gastroduodenal glands which lie below and to the right of the pylorus about the head of the pancreas and in the curve of the duodenum, is the next step in the operation. The gastrocolic omentum is tied in sections rather close to the transverse colon, the fat and glands are lifted up from over the head of the pancreas, and the blood-vessels anastomosing with the branches of the superior pancreatoduodenal artery, are caught and tied. Separation is continued upward, clearing the inferior border of the duodenum for at least two inches until the gastroduodenal artery is reached in the groove between the pancreas head and the duodenum behind the pylorus. Division of these vessels allows raising in one piece all this important group of glands.

Step 5.—The posterior surface of the upper duodenum is separated from the pancreas, and if the pancreas is adherent to the gastric growth, a piece is shaved off, allowing it to remain attached to the growth by adhesions. In other cases it becomes necessary to remove more or less of the pancreatic structure. If the involvement is extensive it is better to leave this part of the operation until the stomach is either cut across and separated from the duodenum, or the line of stomach section on the cardiac side is finished and the stomach turned over in order that this portion of the dissection may be completed under inspection. If such injuries to the pancreas are properly cared for, we have not found that they give rise to serious consequences. Haberkant found that a mortality of 76 per cent., and Mikulicz that a mortality of 74 per cent. followed the removal of such pancreatic involvement. It is the rule that these operations are more serious because more extensive but we have not found any special mortality due to operable pancreatic complication. The best manner of treating such an injury to the pancreas is to cover it as far as practicable with the sheath and posterior peritoneum, and after completely closing the end of the duodenum, if possible, the stump of the duodenum should be buried in the injured surface of the pancreas.

Step 6.—As a rule the duodenum beyond the pylorus is not involved to any considerable extent, but to make sure it is best to remove about an inch of it. A firm compression forceps is placed next to the pylorus and a half inch below this a pair of light holding clamps on the duodenum above and below to prevent this holding clamp from slipping off. The duodenum is divided between and both raw surfaces cauterized with the actual cautery. The pyloric end of the stomach is turned completely over on the left side of the patient. The stump of the duodenum is sutured with a continuous catgut suture passed through the duodenum and around the forceps as in the Pilcher operation for the removal of internal hemorrhoids. The holding clamp is slipped off, the catgut sutures drawn tight and tied. Three-fourths of an inch below this a purse-string suture of medium-sized linen is placed about the duodenum, the ends of the catgut strands are cut short and the duodenal stump invaginated in a manner similar to the stump of an appendix in appendectomy. A second linen purse-string suture is now placed about the duodenum; behind it catches the pancreatic sheath so that the stump may be buried against the head of the pancreas, as recommended by Willy Meyer. Finally the stump of the adjacent tied gastrocolic and gastrohepatic omenta are so adjusted by fine linen sutures as to make further protection. In our experience this technic has been adequate and we have had no cases of duodenal leakage. The field of operation is now searched for any bleeding points and protected with gauze.

Step 7.—The stomach is drawn to the right and holding clamps placed from the space cleared on the greater curvature in Step 3 to the space cleared on the lesser curvature in Step 2. When the stomach is cut across, these clamps sometimes slip near the cardia and the stomach retracts. To prevent this a pair of bayonet holding clamps are placed on the proximal side from above down, grasping the upper part of the stomach half-way across. A clamp is now placed distally to prevent leakage from the end to be amputated and the stomach divided between. The divided proximal gastric surface is cauterized with the actual cautery and the stomach turned in by a continuous chromic catgut suture beginning on the greater curvature. This suture is applied quite tight and is the one we have described on several occasions. It starts on the mucous surface, passes through all the coats to the peritoneum and back on the opposite side through all the coats to the mucous membrane, is then tied and the end cut short. The suture now passes through all the coats from the mucous to the peritoneal coat and begins on the opposite side by passing through all the coats from the peritoneum to the mucous and back on the same side from the mucous to the peritoneum. This is repeated on alternate sides until one-half to two-thirds of the stomach is closed. The cut margins now approach the transverse holding clamp so closely that inversion cannot be accomplished; this clamp is removed and the bayonet clamp, which grasps the upper part of the stomach to the left of the cardia, is depended on during the completion of the suture. A half dozen mattress tension sutures of medium sized linen are now placed, turning in the catgut row, and over this a continuous Cushing suture of fine linen makes all secure (Fig. 3).

Step 8.—Restoration of gastro-intestinal continuity is best made by a posterior suture gastrojejunostomy with the jejunum passing to the left and as short as will permit the intestine to reach the stomach pouch without tension. In some cases the remaining pouch of the stomach is so small that anterior gastrojejunostomy on an 18-inch loop, the jejunum running to the right, can be done more easily and quickly, and has given equally good results (Fig. 4).

In doing the anterior gastrojejunostomy we have usually followed the method of Hartmann, i. e. the two-row suture method but in addition, as Hartmann recommended stitching the intestine to the stomach pouch an inch above the proximal side with a mattress suture. A second mattress suture is placed three-fourths of an inch on the distal side attaching the jejunum to the tip of the stomach pouch. This prevents the jejunum from kinking on the gastrojejunal opening. Some operators make the gastrojejunostomy as the first step of the resection. We have done so on a few occasions. It is the rule, generally, that cancerous disease should be removed regardless of consequences and the repair made to fit the individual case. The gastrojejunostomy, if made primarily, may not always be at just the right point after the eradication of the disease. In selected cases the Kocher method of joining the duodenum to the stomach, can be used, inserting the cut end of the duodenum into the posterior wall of the closed pouch of the stomach. We have used the Kocher method but generally speaking, it is not as satisfactory as the Billroth No. 2 method, i. e. closing both the end of the duodenum and stomach and making an independent gastrojejunostomy. The Billroth No. 1 method, direct union between the cut end of the duodenum and gastric pouch, cannot often be used in malignant disease, although for benign disease, especially hour-glass ulcer, transverse resection in continuity and direct suture, give excellent results.

Some eminent surgeons believe that in serious cases we should do the gastrojejunostomy at one time, and after the patient has had an opportunity to pick up as the result of better feeding, to resect the stomach. We have followed this plan on two occasions, making the resection about two weeks after the gastrojejunostomy. In advanced disease gastrojejunostomy seems to be nearly as dangerous an operation as complete resection and because of the sloughing masses in the stomach, gastrojejunostomy does not furnish the rapid relief which is desired. Again, when the patient has recovered from his first operation he is inclined to procrastinate, or to refuse a second operation.

In regard to the question of shock in these debilitated individuals: The patient is given a moderate dose of morphin preliminary to anesthesia, which should be maintained to the very lightest degree during the visceral stage of the operation, as no pain is experienced at that time. As a rule the operation can be completed in from forty-five minutes to an hour and ten minutes, unless some complication arises. After operation the patient is kept warm and is put in the semi-sitting posture. If much debilitated he is given ten to fifteen minims of camphorated oil hypodermatically every four hours for several days. From four to six quarts of saline solution are given the first twenty-four hours by the Murphy method of rectal infusion. Two nutrient enemas are given in twenty-four hours for the first three or four days, by which time the patient will be able to take a sufficient amount of liquid nourishment by mouth. A moderate amount of hot water is allowed in the stomach from the start if borne well; after the first twenty-four hours, tea, broths, etc. may be given. Occasionally some blood and gastric secretion will accumulate in the stomach pouch in the first two days. This should be gently removed with a tube and the stomach irrigated with hot water.

OPERATIVE MORTALITY OF PYLORECTOMY AND PARTIAL GASTRECTOMY

In the 266 resections up to Jan. 27, 1910, there were thirty-four deaths or 12.4 per cent. During the year 1909 there were forty-six resections with four deaths, 8.6 per cent. mortality. This includes every case dying in the hospital without regard to the length of time following operation, and it includes all the early cases in which the mortality was high. In a way this is hardly fair to the statistics as many of the patients were in wretched physical condition at the time of operation, and some of these lingered along for weeks, dying eventually from exhaustion. The post-mortem showed the operative field to be in good condition. Yet this method of estimating the operative mortality seems to be the only way in which unprejudiced statistics can be compiled. If one begins to eliminate certain cases it is difficult to tell just where the line may be drawn fairly. While the operation is one of considerable magnitude if the patient is in good condition, the mortality is certainly under 5 per cent. and to a great extent the deaths are due to the patient's condition rather than to the operation itself. This brings up the question whether resection in advanced cases is worth the risk. I think it is. It should be borne in mind that these patients are usually admitted to the hospital with obstruction of such degree that the possibility of life is reduced to a few days or weeks. Gastrojejunostomy, with nearly the same mortality as resection in cancer, does not give great relief in these advanced cases owing to the discharges from the sloughing mass which pass downward into the intestinal tract and cause serious changes in metabolism, as contrasted with the patient's condition after resection of the cancerous stomach.

TABLE 3.—OPERATIONS FOR CANCER OF THE STOMACH FROM APRIL 21, 1897, to JAN. 27, 1910

ST. MARY'S HOSPITAL RECORDS

Total number	627
Explorations—Hopeless condition	206
Gastrojejunostomies	169
Gastrostomies	26
Excision of ulcer (with cancerous change)	2
Resection for cancer	224
	627

I am greatly indebted to Dr. J. F. Robinson for his painstaking care in ascertaining the present condition of patients, and for his aid in compiling the statistics.

STRYCHNIN POISONING

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PHILADELPHIA

The patient in question is a young student of pharmacy, aged 21. For a few days previous to taking the drug in mistake he had felt tired and unable to pursue his studies with comfort, which led him to take strychnine sulphate gr. 1/60 three times daily. That very evening he felt what he diagnosed as an attack of coryza coming on, for which he decided to take a coryza pill coated with chocolate. By mistake he took from 2 bottles a number of chocolate-coated pills, each containing grains 1/30 of strychnin sulphate, and took them singly at short intervals until he had taken sixteen in less than three hours. He came to the hospital to consult a physician concerning his peculiar twitching of the muscles around the mouth. While talking with one of the physicians, who noticed the peculiar spasms and who suspected strychnin poisoning, he said, "I have been taking a number of coryza pills." It was then found that the pills taken contained strychnin sulphate grains 1/30.

The patient was at once given two cups of hot black coffee and before lavage could be resorted to he developed severe spasms and almost complete locking of the respiratory muscles. He became cyanosed, opisthotonos followed and there was no time to be lost in saving his life. Chloroform was administered by inhalation until he was completely relaxed, after which a stomach-tube was passed and the stomach washed out with strong coffee. After the effects of chloroform had passed off, it was soon noticed that his face was drawn in the characteristic sardonic grin. The lower jaw became immovable, the neck rigid, the pupils dilated, the reflexes heightened so that the muscles contracted spasmodically. The patient was conscious and complained of pain, especially of the extensor muscles of the body. The administration of chloroform by inhalation again gave him relief. Also a suppository containing the following:

	gm.	
Extracti cannabis indicæ		
Extracti hyoscyami, āā	.015	gr. ¼
Camphoræ monobromatæ	.30	gr. v

At the end of three hours he remained thoroughly relaxed and voided 8 ounces of urine. He drank water freely; 30 grains of potassium bromid were given by mouth and a pint of strong coffee injected into the bowel.

The patient in twenty-four hours later had entire suppression of urine. He was catheterized and not half an ounce of urine could be obtained.

The diuretic employed was hot water. The patient was requested to drink constantly all the hot water possible. He drank two quarts and a pint in three hours' time and at the end of four hours he had voided at intervals 16 ounces of urine. The first urine showed albumin and hyaline casts. The albumin and casts, however, disappeared in two days' time. At the end of four days the patient left the hospital in a very good condition.

Acute strychnin poisoning often results in albuminuria and nephritis. The use of strychnin in curing the alcoholic habit is bad therapeutics. In many institutions for the cure of inebriates strychnin is employed too freely. It is true that it suppresses the desire for alcohol but in most alcoholics there is a chronic nephritis and the ingestion of the constant and large amount of strychnin produces an irritant effect on the kidneys, thus increasing the nephritis.

The diagnosis of strychnin poisoning is not always quite as easy as it was in this case. A patient from whom it would be impossible to ascertain any information may be found in convulsions and a careful differential diagnosis must be made in order to treat the patient successfully. The convulsions do not resemble

those occurring during the epileptic paroxysm, because they are always tonic and never clonic in character.

They may be distinguished from those of tetanus by the history of the case and by the symptoms. In tetanus the muscles of the lower jaw are first attacked; locked jaw exists for some time before the other muscles are involved. Moreover, in tetanus the muscles do not entirely relax; some remain rigid, whereas in strychnin poisoning all the muscles are affected almost simultaneously, the body being thrown into opisthotonos with each paroxysm. In what is known as tetany, the muscles about the neck usually are not affected, but there is persistent rigidity of other muscles. In hysterical convulsions the muscular contractions are not painful, and the patient does not retain full sensation or full consciousness, but is in a dreamy or stupid condition. In convulsions of hydrophobia the patient is semidelirious there are no tonic spasms of the muscles or cramps and there is a history of a wound from an animal.

1805 Walnut Street.

TRANSFUSION AS A CURE FOR MELENA NEONATORUM

WITH REPORT OF A CASE

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The following case is the third one of its kind to be reported. The results of transfusion in this instance were as gratifying and as completely successful in bringing about a prompt and entire cessation of the hitherto uncontrollable hemorrhages of melena neonatorum as in the patients of Samuel W. Lambert[1] and of Swain, Jackson and Murphy.[2]

Until the present time all the therapeutic measures tried in the treatment of melena neonatorum have had one characteristic in common, that is, their futility. Whether we have drawn on our scanty physiologic knowledge of the factors influencing the clotting of the blood and have supplied calcium salts, various serums, etc., or whether we have acted on the theory that the disease is an inherited taint from the parents and have resorted to antiluetic drugs, or whether symptomatic treatment has been employed—saline infusions, styptics, lavage, rectal irrigation, etc.—the result has in the majority of cases been fatal. The procedure of transfusion of blood certainly puts a new aspect on the prognosis of this disease.

In this, the third, trial of transfusion an immediate and permanent cessation of hemorrhages was brought about and no harm resulted either to the donor or to the recipient of the transfused blood. In all three cases the growth of the babies subsequently proceeded in a normal way and except for a scar they seemed none the worse for their experience.

The inadequacy of all other measures as compared with transfusion is a strong argument in favor of its more extensive trial whenever recourse may be had to the skilled surgery necessary to perform this delicate operation. With three cures along similar lines on record, the contention that the disease ceased spontaneously could hardly be made and we cannot doubt that the cures were directly due to transfusion. If the future should show that transfusion is not efficacious in curing every case of melena neonatorum, the value of the procedure need therefore not be disputed, for this might simply point to a multiple etiology for this disease. In the instances thus far reported the cause of the persistent hemorrhages evidently lay in the abnormal clotting quality of the blood, which, on being replaced by normal blood, at once clotted normally and a cure resulted. It is, however, not beyond the range of possibility that the cause of some cases of melena neonatorum must be sought elsewhere than in the blood; for instance in abnormally pervious capillaries and blood-vessels. Just so not every glycosuria is a sign of insufficient internal secretion of the pancreas, but some may be the result of brain tumor, excessive ingestion of carbohydrates, etc. Hence if in some case the expedient of transfusion should fail, its value should not be underestimated but its suitability admitted when applied as a definite remedy to cure a definite condition: inability of the blood to clot in a normal manner. All instances of melena neonatorum may fall in this category. If this be true—and the cases thus far reported certainly point that way—we have in transfusion an absolutely certain cure for this otherwise generally fatal malady. At present therefore transfusion is indicated in every instance of the disease, as it is the only method of cure known.

In the case reported here the operation involved was a peculiarly difficult one, as the patient was very small, weighing but 5 pounds and 2 ounces on the third day after birth. Dr. Alexis Carrel of the Rockefeller Institute, assisted by Dr. Adrian Lambert and Dr. R. D. McClure, performed transfusion by end-to-end anastomosis of the baby's femoral vein to the radial artery of the child's father, according to the method devised by Dr. Carrel himself. A great difficulty presented itself in the small caliber of the vein of such a diminutive infant; at first this obstacle seemed insurmountable, but as the urgency of the operation became every minute more apparent, the attempt was made, and at the very first trial the blood flowed freely from father to child, so that the color of the latter changed within a few minutes from a waxy pallor to a marked blood-red. Transfusion by any of the cannula methods was out of the question with vessels of this size.

The history of the case is as follows: Both parents are healthy and there is no record of melena neonatorum, hemophilia or other blood disease in the family and no history of lues or its results. The child, a boy, was born after an uneventful, normal, eight-hour labor on Jan. 14, 1909. Judging from the date of the last menstrual period, labor occurred about two weeks ahead of time, as was also indicated by the small size of the child, which weighed only 5 pounds and 2 ounces on the third day after birth. Primary respirations were spontaneous; the cord was not about the neck; there were no abnormalities. Until the third day the child took the breast at intervals without trouble; urine and stools were normal. On the third day, five hours after nursing, the child vomited blood and a few minutes later passed a bloody stool; the vomiting was not repeated but the bloody stools continued until eight hours later when the infant was almost exsanguinated, as shown by its very marked pallor; the pulse was weak, beating 180 to the minute; the only other signs of bleeding were found in a hemorrhagic area covering the left half of the hard palate, and punctate hemorrhages in the remainder of the hard and soft palate. Transfusion was performed; the child's color changed to normal and except for one additional bloody stool, which evidently was contained within the intestine at the time of the transfusion, there was no further occurrence of hemorrhage; the baby nursed well and gained weight rapidly; up to the present time, one year since the birth of the child, there has been no recurrence of the bleeding.

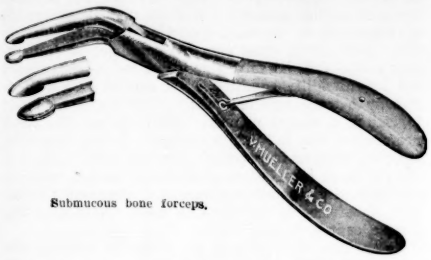
327 Amsterdam Avenue.

1. Lambert: Medical Rec., 1908, lxxiii, 885.
2. Swain, Jackson, and Murphy: Boston Med. and Surg. Jour., 1909, clxi, 407.

ANTERIOR SUBMUCOUS BONE FORCEPS

W. SOHIER BRYANT, M.D.
NEW YORK

The most important use of this convenient-sized rongeur, and the use for which it was especially designed, is the removal of the maxillary ridge in the submucous septal operation. The blades are small enough to allow their easy guidance in the operation, and, at the same time, strong enough to cut the hardest bone. The rongeur is most efficient also for removing the bridge between the cavum tympani and the mastoid antrum in the tympano-mastoid exenteration. In cleaning up the operative field in a mastoid exenteration the instrument is useful, as it will readily cut any bony tubercule or irregularity.



Submucous bone forceps.

41 East Thirty-third Street.

A RAPID STAIN FOR FROZEN SECTIONS*

S. STROUSE, M.D.
CHICAGO

The use of frozen sections as an aid to surgical diagnosis has a well-defined field of usefulness. At the present time the method is employed mainly in selected cases in which a rapid microscopic diagnosis is needed to determine the extent of operative procedure. With the introduction of simple freezing apparatus, however, frozen sections may well enter a field of more general usefulness. Very little apparatus is required, and carbon-dioxid tanks can be procured at almost any crossroads, facts which should appeal to those surgeons who desire to see the results of their operations and yet have not the facilities required for histologic technic.

The staining methods in use at present are numerous. Perhaps the most satisfactory are the hematoxylin-eosin method and the polychrome methylene-blue method of Wilson.[1] Hematoxylin-eosin gives the clearest-cut histologic picture, but the time consumed is too long when one considers that the patient is under anesthesia while the tissue is being studied. The Wilson method also gives a good differential stain, is simple, and cuts down the time considerably. The staining method offered below is simpler than either of these, requires no solutions other than the stain and takes less time. The histologic pictures are clear and well differentiated, and so far in no case in which the tissue has taken the hematoxylin-eosin has our stain failed.

The stain is easily made. A saturated solution of pure thionin (Grübler) in water is allowed to stand a few hours and then filtered. Equal parts of the filtrate and 2 per cent. phenol are mixed, and the stain is ready for use. The addition of the phenol is not necessary, but by its use the stain is preserved, and its power of differentiating improves with age. The polychrome is made evident by the nuclei taking on a definite blue color, while the cytoplasm and all connective tissue has a distinct red or purplish tint. In a long series of cases of varied nature studied by this stain the diagnosis made of the frozen section has been verified by more detailed celloidin or paraffin sections.

The general method for frozen sections now employed in this laboratory is as follows: The specimen is put into 10 per cent. formalin in the operating-room and immediately sent to the laboratory. Formalin is not necessary to the success of the stain but is used in preference to other solutions because even this short sojourn considerably facilitates the cutting of thin sections. A selected piece of the tissue about 5 to 10 mm. square by 2 to 4 mm. thick is placed directly from the formalin into water on the freezing microtome and frozen by means of carbon-dioxid spray. The cut sections are spread from the knife-edge into the dish of water and immediately lifted to a slide, a drop of the stain added and the cover-slip put on. The excess water may be removed by gentle pressure over the cover-slip with a piece of filter-paper, and the slide is ready for study.

* From the Laboratory of Pathology, Michael Reese Hospital.

1. Wilson, L. B.: A Method for the Rapid Preparation of Fresh Tissues for the Microscope, THE JOURNAL, Dec. 2, 1905, xlv, 1737.

Therapeutics

ERGOT

Belief and disbelief still run hand in hand as to the value of ergot for any therapeutic use, except as a uterine contractor. Those who have faithfully tried without prejudice, and many of those who have faithfully tried with prejudices, ergot in proper solution, intramuscularly, have become convinced of its value as a vasocontractor and as a circulatory bracer. Also, those who have thus properly tried ergot in cerebral and spinal congestions, have become convinced of its ability to better the condition. Many men who have tried ergot for these purposes in absolutely hopeless, fatal cases, as a last resort, and I am sorry to say many even then by the mouth, have condemned it as inefficient and futile medication.

Why ergot should have been so grossly misused for so many years as a proper medicament in internal and hidden hemorrhage, one cannot understand, while at the same time it is so completely condemned without proper trial by some practitioners as a circulatory aid and as a remover of cerebral congestion. While digitalis, strychnin, atropin, suprarenal and ergot may occasionally, by strengthening the general circulation, stop an internal hemorrhage, theoretically, they would generally do harm by raising the blood pressure, and practically their success is doubtless generally *post hoc* and not *propter hoc*. In other words, the hemorrhage had ceased or was about to cease by normal clotting before the drug had had time to act. Lowering of the blood pressure by nitroglycerin or some other method is the only logical way of stopping internal hemorrhage, unless such hemorrhage is venous and is due to a dilated heart.

Dr. Alfred T. Livingston (*Medical Record*, Jan. 29, 1910) says: "Of all the organs of the body the heart

is probably the most irrationally and outrageously treated by the profession to-day." This is absolutely and positively true. It is not a question, in the various kinds of heart failure, acute or subacute, sudden or gradual, occurring in acute or in chronic disease, of what has been done for this heart by the physician in charge, but what has not been done. Too many drugs, too large doses and too frequent would generally be the verdict of anyone who calmly noted what the failing circulation of the patient had suffered. Often, in the same patient, vasoconstrictors and vasodilators are intermingled in a most unique and heterogeneous manner. The vasoconstrictors, which are the stronger, always prevail. This is sometimes fortunate and sometimes unfortunate for the individual. It is rare that the physician notes the character of the heart's action, the force of the apex beat, the force of the valvular closures, especially the aortic, counts the heart beat and the pulse rate at the wrist to see if they agree (recently a symptom chart was found recording a pulse of about 70 on repeated examinations, while the stethoscope disclosed a beat, at one and the same time, of 140), or carefully notes the blood-pressure, even with his finger, to say nothing of the valuable knowledge furnished by a pocket blood-pressure instrument.

There is no question that the frequency of cardiac disturbance is on the increase. There is also no question that the heart requires the most thoughtful care during acute illness, especially in patients over thirty. It is not the province of this article to discuss the reasons for this, but it is a fact. Sad to relate, it is impossible to decide dogmatically or even theoretically, with a given heart, arteries, disease, and signs and symptoms, exactly what, in a particular individual, it is best to do to improve this particular circulation. It can be positively declared that alcohol is not a stimulant when the circulation is failing. It can be equally positively declared that alcohol often, by dilating the peripheral blood vessels, modifies and improves the circulation. It can be positively declared that, with a high tension and throbbing pulse, nitroglycerin is more valuable than alcohol. It can be positively declared that too much strychnin is used in circulatory failure. The dose should rarely be more than 1/40 of a grain hypodermatically, and this not too frequent, and ordinarily 1/30 once in six hours, hypodermatically, ought to be the outside strychnin limit. Under its excessive stimulation the heart cannot dilate properly, does not get its proper nutrition from its normal diastole, and it soon is worn out by its abnormal activity. Again, digitalis will rarely slow a rapid heart during illness, and probably should never be used if there has been a prolonged fever, as the probability of some myocarditis may be assumed.

When there are passive congestions of the lungs or edema of the lungs, or when there is sudden acute congestion (not pneumonia) in valvular disease of the heart, or in failing heart during pneumonia, ergot given intramuscularly is valuable usually, and even occasionally life saving. Ergot by the mouth does not seem to have the ability to strengthen the circulation. The blood-pressure may be raised, in young people, from depression to a tension that may require nitroglycerin in considerable doses. On the other hand, as certified to by Livingston, ergot does not always raise the blood pressure, and especially does not seem to in older individuals. A high, bounding pulse, due to cerebral irritation, as in delirium tremens, will many times become soft, from the quieting effect that ergot has on the brain. Frequently cerebral edema or "wet brain" is strikingly improved and life often saved by the proper administration of ergot.

It is not claimed that ergot will cure cerebrospinal meningitis, or that ergot can render the need of an antitoxin less, or that ergot can prevent the necessity of lumbar puncture, but ergot may postpone the necessity for lumbar puncture, may prevent the repeated necessity for lumbar puncture, and may aid a cerebrospinal patient to recover. Often ergot has been used in cerebral inflammation due to the pneumococcus which is almost hopeless, or in that due to tuberculosis which is also hopeless, or when there is abscess of some portion of the brain, and the negative results obtained have caused ergot not to be used in diseases of better prognosis.

To repeat, ergot is of value in the meningitis of typhoid fever, pneumonia, rheumatism, cerebrospinal fever, and la grippe. It is also of value in delirium tremens and the cerebral excitation of a post alcoholic debauch. Some kinds of congestive headaches are markedly helped by ergot.

The dose of an aseptic ergot is from 1 to 2 c.c. (15 to 30 minims), given deeply into the deltoid muscle, in acute heart failure, once in 3 hours for 2 to 3 times, and then once in 6 hours. By such administration apparently moribund patients with valvular disease have revived and lived, and are still alive, and this after all the ordinary cardiac and circulatory tonics had been administered without causing improvement. In cardiac weakness it seems to be unwise to continue the administration of ergot longer than through the emergency; other drugs then become more valuable, *i. e.*, after the symptoms as above described are ameliorated the ergot should be stopped. In acute inflammation like cerebrospinal meningitis the ergot should be administered once in 6 hours or once in 12 hours, depending on the amount of cerebral congestion, the coma, and the condition of the circulation.

The value of ergot after operation to promote peristalis when the intestines are apparently paralyzed is doubtful; sometimes it is wonderfully successful in correcting this condition, and at other times it fails. It certainly can never do any harm, and should be tried.

This is also attested by Dr. Livingston in the above mentioned article, viz.: "I desire to put on record the statement that I cannot conscientiously say that I have recognized any ill effects from my use of this drug given hypodermatically and most certainly have seen nothing suggestive of the so greatly apprehended and dreaded ergotism."

Protection Against Claims for Malpractice.—The Netherlands national medical association has recently organized a special committee with consultant legal authority to study means to protect physicians against unjustified suits for malpractice. The committee has also the task of watching over proposed legislation so that the interests of the medical profession can be regarded in the new bills. The occurrence which led to the organization of the committee was a suit brought against a physician because he had insufflated into a patient's eye a powder which he supposed was calomel, as his order called for chloretum hydrargyrosum, while in reality the druggist had dispensed mercuric chlorid, chloretum hydrargyricum. The sight of the eye was lost and, as the druggist had no means, the physician was sued and compelled to pay damages, although the highest authorities testified that he was in no way to blame. The plaintiff claimed that he should have tested the powder received from the druggist.

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[*For other information see second page following reading matter*]

SATURDAY, MAY 14, 1910

THE PATHOLOGY OF RABIES

Rabies presents many puzzling problems besides that of its specific cause, for the entire behavior of the infection is in many ways quite different from that of other infectious diseases. The incubation period is unique both in its extremes of variability, from 14 days to as many months, and in the great length usually exhibited, from 8 to 12 weeks; the excessively long incubation periods reported in some cases with good authority, of from 12 to 38 months, are entirely without parallel in any other acute infectious disorder.

Another striking peculiarity recently emphasized by Paltauf[1] is that whereas only a relatively small proportion of persons bitten by rabid animals develop the disease, yet once the disease does fully develop the termination is inevitably death, for there is no satisfactorily authenticated report of a recovery from fully developed rabies in man, although recovery has been observed in dogs.

According to the most reliable figures it would seem that rabies develops in less than 10 per cent. of all persons bitten by rabid dogs and not receiving prophylactic treatment, Paltauf placing the figures at 6 to 9 per cent. When we consider that such highly contagious diseases as smallpox, plague, etc., have a considerable proportion of recoveries, it is indeed strange that the incidence of rabies is so low when its mortality is 100 per cent. If less than one-tenth of those inoculated with the virus develop the disease at all, why should not many of the infected tenth recover from it? Even in laboratory and domestic animals infection follows natural inoculation in only about one-half of the cases, with a mortality of practically 100 per cent.

Also in the process of protective inoculation is a remarkable condition in that a living virus is injected without infection ever having been known to occur, although the Pasteur treatment has been applied in over 100,000 cases. Evidently the rabbit-passage virus is altogether incapable of infecting man, although it can certainly infect other animals.

Paltauf has made an important observation concerning the pathology of this mysterious disease, through his rare opportunity of securing autopsies on four persons who died during the period of treatment, from some intercurrent disease (one cerebral apoplexy, one pulmonary embolism, two delirium tremens). In all four cases it was found that the medulla, when emulsionized and injected subdurally, infected rabbits with rabies, showing the presence of active virus in the patients' nervous tissue; but apparently this virus was in an attenuated condition, since the incubation period in the inoculated rabbits was unusually long and the symptomatology that of the chronic or "consumptive" rabies.

As but one person in about ten of those bitten develops rabies, Paltauf assumes that his four consecutive positive findings do not represent latent infection which would have manifested itself had the patients lived longer. He believes that these observations indicate that persons bitten by rabid animals commonly have the virus reach the central nervous system, but that nine times in ten it is there destroyed, without causing symptoms, by the natural defensive mechanism which may be made more effective by the immunizing process of the Pasteur treatment; in other words, rabies-inoculated men usually develop a latent infection which is overcome without the symptoms of rabies appearing. The medulla of three persons who died without rabies shortly after the completion of a course of Pasteur treatment, was found to be non-infectious for rabbits, indicating that the virus is destroyed under the influence of the immunization.

Presumably the virulence of the virus with which the individual is inoculated is a chief factor in deciding whether it will be overcome or not, for we find that the bites of rabid wolves cause rabies in about 60 per cent. of those bitten, as against from 6 to 9 per cent. of fatalities from dog bites, and none from subcutaneous inoculation of attenuated rabbit virus. Possibly the failure of destruction of the virus may depend in other cases on individual lack of immunizing power, and sometimes on local disturbances in the central nervous system, since the literature abounds with records of cases in which either physical or psychic shock seemed to determine the development of rabies. In any case, the observations of Paltauf throw a new light on rabies pathology, by indicating that even those who do not show evidences of rabies after being bitten by a mad dog may harbor the virus in their brain tissue for some time, and gradually attenuate and finally destroy it.

The *"virus fixe"* of rabbits is probably a form of rabies virus which is especially readily destroyed by man, and the rabicidal substances developed in reaction to it may help in the destruction of the more virulent virus which entered the body with the bite. This power of the human organism to destroy rabies virus is similar to that exhibited by animals that are not highly susceptible to rabies, such as monkeys and fowls; but the rabicidal power is higher in man than in these animals, since they can destroy the virus only after several passages.

1. Paltauf, R.: Wien. klin. Wchnschr., 1909, xxii, 1023

BEING SUPPLANTED

Life has tests of all kinds, and no one can tell in what way one may be tried out next. A physician often finds himself in a position demanding great skill and resourcefulness in professional ability; and again, in other circumstances, it is not his knowledge and skill but his character that is put to the test, as, for instance, when he is superseded by another physician. Perhaps he has made a most thorough examination of the patient and study of the history, has decided on a diagnosis and has instituted treatment which is just beginning to have its effect. The obscure ailment of long standing is about to yield to the skilful treatment, when the patient, grown weary of the necessary delay, abandons his first attendant and consults another physician who thus happens to have the case in hand when the symptoms clear up, and the first physician receives no credit, but, on the contrary, blame.

In another case, perhaps, the disease is one which does not yield to treatment. The patient is not content to be told that palliation is the only hope, and the physician who has done his best, or even the best that science can do, is thrust aside for someone else. The implied disparagement may be the harder to endure because of the patient's turning to one of the quacks who fatten on incurables or to some "patent medicine" or to one of the sects of mind-healing. It is no light task for a physician to accept the matter in a cheerful frame of mind and to refrain from bitter words that he may afterward regret.

When Abraham Lincoln was named for the presidency he supplanted another statesman, who, by training and experience, was qualified for the position. Similarly, Garfield entered the presidential ranks as a dark horse, stepping ahead of Sherman, whose attainments and valuable services seemed to point him out for the nomination.

It is worth while to compare the different attitudes assumed by these two men. Sherman became a disappointed man who seemed unable to forget having been pushed aside, while William H. Seward cheerfully entered the service of the great Lincoln who had supplanted him, and by faithful service as secretary of state made for himself a name honored by his nation and untarnished by any personal grudge.

The physician who can accept an undeserved slight without angry words and without hasty slurs on a brother physician has in him the spirit which will win the love of a community, and which will reward him in the long run. Not only this, but he has discarded unprofitable and bitter brooding over trouble that cannot be prevented, and has left his mind free for the joys of life and the pursuit of his profession with cheerfulness and satisfaction. As has been well said, we cannot prevent the evil birds of discontent and resentment from flying past our doors, but we can prevent them from building their nests in our homes.

BORIC ACID AS A FOOD PRESERVATIVE

For some years past a strenuous campaign has been conducted by the concern which practically controls the borax supply in this country, with the object of removing the very natural objection which the public has to the use of borax and boron compounds as food preservatives. The arguments for and against the use of these chemicals in foodstuffs have invariably centered about the question of their effect on the human system. That boron compounds would inhibit the growth of bacteria in meat has been tacitly assumed by both their champions and opponents, the point of dispute being the harmfulness of the chemicals *per se*. It now seems that it is by no means certain that boric acid, in the proportions usually used, will inhibit the growth of the most dangerous bacteria.

In view of the light which it throws on this question, an article on "A New Aspect of the Effects of Boric Acid as a Food Preservative," in a recent issue of the *British Medical Journal* and abstracted in this issue,[1] will prove of interest. In this article, Julius Bernstein, pathologist to the city of Westminster, details the results of a series of experiments which he carried out to determine the effect of boric acid as a preservative of meat. Summed up, the results demonstrated that while boric acid, used in the strength of three-tenths of one per cent., inhibits to some extent the growth of *all* organisms, the inhibition is most marked in the case of the yeasts and harmless saprophytes. On the other hand, it had much less effect on the growth of the *Bacillus typhosus* and the *Bacillus enteritidis* (Gaertner's bacillus). In other words, while the objective putrefactive changes which are checked, are such as would by their odors give warning against the growth of bacteria, the organisms which are of the greatest danger to human beings, the bacillus of typhoid and the bacillus of "meat poisoning," are affected but little, if at all. From a practical standpoint these results mean much. As Bernstein's experiments indicate, the addition of boric acid to stale meat, or even to meat that has begun to decompose, makes it possible to market such meat by preventing and to some extent removing the warning signs of decomposition, i. e., offensive odor and taste; in a word, the chemical masks the symptoms of putrefaction. The growth of dangerous bacteria, however, not only is not inhibited by boric acid—except to a very slight degree—but, as the prolific and rapidly growing harmless bacteria are prevented from growing, the amount of soil (meat) left for the nourishment of the former is proportionately much greater. Meat that has not been treated with boron compounds or other chemicals, will, before it becomes a serious menace to health, give warning by the odor and taste developed by the growth of the bacteria of putrefaction; with meat that has been "preserved" with boric acid the development of such warning signs is prevented.

1. Page 1654, abstract 21.

DR. HODENPYL—A TRUE SCIENTIST

In the death of Dr. Eugene Hodenpyl, the medical profession has lost a great man and a rare spirit. To die at the age of forty-six, when ready to enter the door which one has opened to a great discovery, is one of the tragedies of life. To have succumbed to pneumonia, because he was too worn with work to rally, places Dr. Hodenpyl in the ranks of the martyrs of science.

Until a few years previous to his death, Dr. Hodenpyl had been associated with Columbia College as pathologist, but during the last few years his work was done at Roosevelt Hospital. The laboratory of the latter institution may gain no little credit from having been the scene of Dr. Hodenpyl's successful experiments on the relief and possibly the cure of cancer.

His one modest preliminary communication[1] on "Treatment of Carcinoma with the Body Fluids of a Recovered Case," was all that the medical world at large knew of his experiments. So determined was he that his work should not be heralded as the discovery of a new cure for cancer and nothing published until amply proved, that few know how much has really been accomplished. Judging from analogy and from his success in the cases on which he has been working, the few who were permitted to know the result of his experiments felt that he had the key to the solution of the problem in his hands, and that his conception and experiments placed him in the rank of the leaders of medical thought.

A biologic laboratory is perhaps the sternest school of integrity and honor. The fame that comes to a devotee of pure science is unsought, and cannot even be expressed in eulogies. It is expressed in the belief and following of the whole medical profession, and of the intelligent of all nations. Possessing the quality of the true scientist, Dr. Hodenpyl disregarded what might seem to many to be his duty to himself, his patients, and his family, to use the precious limited quantity of ascitic fluid he had obtained to relieve as many as possible of the patients brought to him, and, incidentally to achieve sufficient wealth to enable him to pursue his researches with as much freedom as though he were in an endowed laboratory. His higher conception of his duty as a scientist, and of the possibilities of his discovery made him throw his very life into the testing and proving of every step of his methods, and into the search for a possible source of general supply of this fluid, which is at present limited to the tappings of his one patient. It demanded more than fortitude for Dr. Hodenpyl to resist the importunate pleadings of sufferers in every part of the land, and to reserve the fluid for those patients whose treatment could contribute to knowledge on the subject, and for trusted experimenters, who could carry on the various correlated series of chemical and biologic investigations that were under way when he died.

Not only for his ability and for the untimely interruption of his work is he mourned, but for his character and lofty ideals, for such men are the inspiration of those who, desiring to search after truth, are tempted to bow low to Mammon.

1. Medical Record, Feb. 26, 1910.

Medical News

ALABAMA

Commencements.—The commencement exercises of the Medical Department of the University of Alabama, Mobile, were held April 18, when a class of 39 received diplomas. Irwin Craighead, LL.D., delivered the oration to the graduates on "Civic Duty of the Medical Man from the Layman's Point of View." The degrees were conferred by President John W. Abercrombie.——At the fifteenth annual commencement exercises of Birmingham Medical College, held April 28, a class of 28 was graduated. The commencement address was delivered by President A. P. Montague of Howard College, and Dr. Russell M. Cunningham, Ensley, delivered the charge to the graduates. The diplomas were presented by Dr. Benjamin L. Wyman, dean of the college.

CALIFORNIA

Personal.—Dr. Julius Rosenstirn, San Francisco, has returned from Europe.——Drs. Fitch C. E. Mattison, Pasadena, and Charles C. Browning, Monrovia, have been appointed members of the executive committee of the California Public Health League.——Dr. Joseph E. Artigues has been appointed physician and Drs. Michael H. Etcheverry and Paul Campicke have been elected visiting physicians of the French Hospital, San Francisco.——Drs. E. W. Parsons, Lewis C. Jacobs and Thomas H. O'Connor have been appointed assistant emergency service physicians of San Francisco.——Dr. Frank E. Blaisdell, San Francisco, has been appointed assistant professor of anatomy in Stanford University.——Dr. Attilio S. Musante, Sacramento, has been reelected president of the Alumni Association of the University of California College of Pharmacy.

ILLINOIS

Policy of New Hospital Superintendent.—Dr. Sidney D. Wilgus assumed charge of the Elgin State Hospital May 1. He announces his policy of segregating acute and chronic cases of patients, and the extension of the plan of inmate labor as fast as possible.

Diploma Mill Unearthed.—The State Board of Health reports that it has unearthed a rank "diploma mill" in Chicago, and has succeeded, through a physician in another state, in purchasing three diplomas. Prompt action will be taken to cause the revocation of the charter and also to summon those implicated, two of whom are recent licentiates of the board, to show reason why their certificates should not be revoked for unprofessional and unlawful conduct.

State Bacteriologic Laboratory at Danville.—The Illinois State Board of Health will have a bacteriologic laboratory on North street, Danville, directly opposite the place of meeting of the Illinois State Medical Society, May 17-19, for the purpose of affording information to physicians who desire to ascertain what is being done at the laboratory at Springfield. The routine examinations of the board will be conducted in this laboratory during the days of the meeting, and those wishing specimens examined are requested to bring them to Danville.

Personal.—Dr. Frank P. Norbury has severed his relations with Maplewood Sanatorium, Jacksonville.——Dr. William H. C. Smith, Godfrey, while en route to Springfield, May 2, was struck in the cheek by a hatpin and received a very painful wound, narrowly escaping injuring the eye.——At the annual meeting of the medical staff of Proctor Hospital, Peoria, May 2, the following officers were elected: Dr. Robert A. Kerr, president; Dr. Robert A. Hanna, vice-president; and secretary, Dr. William R. Allison.——Dr. Eugen Cohn has reported for duty as assistant superintendent of South Bartonville State Hospital.——Dr. Everett H. Bradway has been elected a member of the board of health of Abingdon.——Dr. Henry B. Hemenway, Evanston, has the sympathy of his friends on account of the recent death of his wife.

Chicago

Personal.—Dr. and Mrs. George S. Isham and son have started for Europe.——Dr. Buell S. Rogers has returned from an extensive tour of the gulf states and Cuba greatly improved in health.

Hospital Items.—The new wings of the Wesley Hospital, recently completed at a cost of $136,000, was formally opened May 7. The new wing is six stories in height and will increase the capacity of the hospital one-fourth.——The plan to convert the Mary Thompson Hospital for Women and Children into a contagious disease hospital is said to have caused a controversy among the officials. A majority of the board of

trustees is believed to favor the change, while women physicians on the board of managers protest against any deviation from the plan of the endowers of the hospital.——An emergency room for the care of the sick and injured has been installed in the cell-room of the South Chicago Police Station. ——Dr. Albert J. Ochsner has sold the Chicago Fresh Air Hospital for Tuberculosis 20 acres of land in West Ridge on Western avenue, north of Kenilworth, for $5,000, with the assumption of $15,000 incumbrance. The ground will be used mostly for park purposes, but also as the site for additional buildings as needed.

IOWA

Personal.—Dr. Frank E. Boyd, Colfax, has been elected local surgeon for the Rock Island System; also for the Colfax, Northern and Spring City Railroad.——Dr. Charles M. Linehan has been appointed city physician of Dubuque.——Dr. Thomas J. Williams has been reelected health officer of Hiteman.——Dr. Elijah W. Jay, Marshalltown, coroner of Marshall county, underwent operation for hernia, April 25.——Dr. Edward J. Wehman has been appointed city physician, health officer and bacteriologist of Burlington.——Dr. Benjamin E. Eversmeyer has been reelected health officer of Muscatine.—— Dr. George S. Roepke, Aurelia, is reported to be seriously ill. ——Dr. George W. May has been appointed health officer of Cascade.——Dr. Charles A. Katherman has succeeded Dr. Milton Daily as police surgeon of Sioux City.

KENTUCKY

Antituberculosis Societies.—The Paducah Association for the Study and Cure and Prevention of Tuberculosis has been incorporated without capital stock by H. C. Rhodes, R. Rudy, Dr. Harry P. Sights and A. R. Meyers.——The Kentucky Association for the Study and Prevention of Tuberculosis has engaged as field secretary Eugene Kerner of New York City. His duty will be to gather information with regard to the tuberculosis situation in Kentucky, to prepare a state tuberculosis exhibit, and to organize local antituberculosis associations wherever possible.

Personal.—Dr. J. Thomas Wallingford has been elected health officer and Dr. Hugo W. Aufenwasser a member of the board of health of Covington.——Dr. Eugene C. Roemele, Frankfort, has started for Germany.——Dr. George W. Armes, Leitchfield, has succeeded Dr. Daniel J. Healey as superintendent of the Institute for the Feeble-Minded, Frankfort.——Dr. William F. Gardner, Dycusburg, who was seriously injured in the machinery in an accident in a motor boat, is reported to be in a serious condition at Riverside Hospital, Paducah. ——Dr. John W. Pendley, Paducah, has been elected physician of McCracken county.

LOUISIANA

Students' Research Club.—The student body of Tulane University has organized a research society to be known as the Undergraduate Medical Research Club of Tulane University, Louisiana, with the prime object of individual investigation into the history and treatment of those diseases which now occupy the attention of medical science.

Personal.—Dr. Oscar Dowling, Shreveport, has been elected surgeon in charge of the ear, nose and throat department of the Eye, Ear, Nose and Throat Hospital, New Orleans, vice Dr. Gordon King, deceased. Dr. Dowling will move to New Orleans.——Dr. W. F. Waide has been appointed resident surgeon of the Eye, Ear, Nose and Throat Hospital, New Orleans. ——A store owned by Dr. John W. Lambert, Tangipahoa, was burned April 14.——Dr. Emil Regard, Mansura, has been elected president of the Louisiana School Boards' Association. ——Drs. J. Hope Lamb and Henry A. Veazie, New Orleans, have been appointed acting assistant surgeons, U. S. P. H. and M.-H. Service, for duty in the sanitary inspection office.—— Dr. Joseph A. Estopinal, medical inspector of the State Board of Health, has resigned, and will return to St. Bernard and engage in general practice.——Dr. Luther Sexton, New Orleans, has donated $10,000 to the Methodist Orphanage, Wesson, Miss.

MARYLAND

Personal.—Dr. Jephtha E. Pitsnogle, Hagerstown, has been reappointed health officer of Washington county.——Dr. Aleck P. Harrison, Baltimore, assistant physician and pathologist at Springfield Hospital for the Insane, Saxeville, has resigned.

Baltimore

Personal.—Dr. Mary Sherwood has been elected president, and Dr. Florence R. Sabin, corresponding secretary, of the Just Government League.——Dr. William Hans Browne has resigned as professor of English literature in Johns Hopkins University on account of advancing age. Dr. Browne was librarian of the university from 1879-1891.——Dr. Howard A. Kelly has been elected treasurer of the Maryland Auxiliary of the Mission to Lepers.——Dr. Clemens Von Pirquet has been granted a year's leave of absence and left for Europe April 30.

Johns Hopkins Alumni Meet.—The annual meeting of Johns Hopkins Medical School Alumni Association was held May 6 and 7. Addresses of welcome were made by Drs. Henry M. Hurd, William H. Howell and William H. Welch. Clinics and demonstrations followed, and a banquet was held on the evening of the second day. Dr. Lewellys F. Barker entertained the alumni at a garden party, and class organizations held separate meetings. Dr. Thomas R. Brown, Baltimore, was elected president, and Dr. Walter R. Steiner, Hartford, Conn., secretary-treasurer, of the association. It was decided to hold a reunion every three years. Dr. William H. Welch addressed the association on "The Historical Significance of Johns Hopkins."

MASSACHUSETTS

Personal.—Dr. L. J. Henderson has been made assistant professor of biologic chemistry, Dr. W. R. Brinckerhoff, assistant professor of pathology, and Dr. L. B. Wolbach, assistant professor of bacteriology in Harvard Medical School.——Edward S. Cowles, Boston, is said to have pleaded guilty, April 27, to one count of an indictment charging him with practicing medicine without due registration, and asked that the minimum fine of $100 be imposed.——Dr. Walter R. Mansfield, Boston, has been elected chairman of the Municipal Board of Bath Commissioners.

Society Meetings.—The annual meeting of the Essex North District Medical Society was held in Lawrence May 4, and the following officers were elected: President, Dr. Warren W. Pillsbury, Newburyport; vice-president and auditor, Dr. William H. Merrill, Lawrence; secretary-treasurer, Dr. J. Forrest Burnham, Lawrence (reelected); corresponding secretary, Dr. Roy V. Baketel, Methuen; censors, Dr. Frank B. Pierce (supervisor), Haverhill; Drs. Robert M. Birmingham and John A. Magee, Lawrence; John A. Fitzhugh, Amesbury, and Arthur C. Nason, Newburyport; councilors, Drs. Frank B. Flanders, Charles G. Carleton, and J. Forrest Burnham, Lawrence; Israel J. Clark, Haverhill; Frank W. Snow and Ernest H. Noyes, Newburyport, and John A. Douglass and Frank E. Sweetsir, Amesbury; commissioner of trials, Dr. John F. Croston, Haverhill; nominating councilor, Dr. Israel J. Clarke, Haverhill, and alternate, Dr. Charles G. Carleton, Lawrence. Resolutions were adopted condemning contract lodge practice. The president of the Massachusetts Medical Society was present as a guest and urged the united support for a bill for a national department of health, and a resolution was adopted "that the principles of Senator Owen's bill for the establishment of a National Health Department under the supervision of a secretary of public health, who shall be a member of the cabinet, are in this society's judgment correct and should be enacted in law."

MICHIGAN

Clinic Week.—The annual clinic week of the Alumni Association of the Detroit College of Medicine will be held May 18-26.

Personal.—Dr. C. Ward Ellis has been elected health officer of Eaton Rapids.——Dr. Emily Summers Stark has been appointed physician to the State Industrial Home for Girls, Adrian.——Dr. Ernest W. Haass has succeeded Dr. Johnson B. Kennedy as president of the Detroit Board of Health.—— Dr. Edward J. Kirkwan has been appointed city physician of Ludington.——Dr. Clyde C. Slemons, formerly city bacteriologist of Grand Rapids, has been elected health officer. Dr. Alden H. Williams has been elected bacteriologist, and Dr. Leland H. Gilleland, medical inspector of schools.——Dr. Alvin H. Rockwell has been appointed health officer of Kalamazoo. ——The medical friends of Dr. William F. Metcalfe, Detroit, gave a dinner in his honor April 27, at which addresses were made by Dr. Charles G. Jennings and Henry O. Walker. Dr. Metcalfe told of the trip through Europe, taken by himself and Dr. Homer E. Safford, and ideas they had obtained there for the new hospital.——Dr. Charles H. McLean has been appointed health officer of Caro.——At the annual meeting of the Hastings Antituberculosis Society, Dr. Charles H. Russell was elected president.

MINNESOTA

New Medical Buildings.—The work on the three new buildings for the University of Minnesota, the Elliot Memorial Hospital, Millard Hall, and the Institute of Anatomy, has been begun. These three buildings will cost $600,000. The Elliot Memorial Hospital will contain the office of the dean, faculty

rooms, record rooms, an amphitheater, and laboratories for the departments of physiology and pharmacology. The Institute of Anatomy will be devoted chiefly to laboratories.

Personal.—Dr. Thomas G. Lee, director of the Institute of Anatomy of the University of Minnesota, has sailed for Europe as delegate to the International Anatomic Congress at Brussels, and the International Zoologic Congress at Graz, Austria.——Dr. George T. Ayres, Ely, who has been ill at Shipman Hospital with scarlet fever, is convalescent and has left the hospital.——Dr. Henry M. Bracken, secretary of the State Board of Health, has been selected to represent that body at the International Congress on School Hygiene in Paris in August.——Dr. Harry A. Tomlinson, superintendent of the State Hospital, St. Peter, has been appointed superintendent of the State Farm for Inebriates near Wilmar.——Dr. Albert F. Groves, Brainerd, who has been ill several weeks, has recovered and resumed practice.——Dr. and Mrs. Christopher Graham, Rochester, have returned from a trip to Italy.

MISSISSIPPI

Personal.—Dr. William W. Reynolds, Meridian, has been appointed surgeon for the Queen and Crescent System with headquarters in New Orleans, as temporary successor to Dr. Oliver H. Harrison, for many years local surgeon of the system in Meridian.——Dr. James McQ. Buchanan has been appointed his own successor as superintendent of the East Mississippi Insane Hospital, Meridian.

Graduating Exercises.—The fourth annual graduating exercises of the Mississippi Medical College, Meridian, were held April 30. Diplomas were presented to a class of 16 by Dr. R. A. Venable. The address to the graduates was delivered by R. E. Williams, and the annual oration by Rev. W. P. Witsell. At a meeting of the faculty of the college, it was unanimously decided to erect a new college building with hospital attached, at a cost of from $20,000 to $30,000.

MISSOURI

Commencement Exercises.—The thirty-third annual commencement exercises of the Ensworth-Central Medical College, St. Joseph, were held May 7, when a class of 17 received diplomas from the hand of Dr. James J. Heddens, president of the board of trustees of the college.

Personal.—Dr. G. Bruce Lemmon has been appointed health commissioner of Springfield.——Dr. Charles E. Krimminger, Independence, has been appointed secretary of the Jackson County Board of Health and physician to the county jail and McCune Home for Boys, and Dr. William G. Rowe, Blue Springs, has been appointed physician to the county farm.——Dr. James T. Stamey has been appointed assistant city physician of St. Joseph.

State Association Meeting.—At the fifty-third annual meeting of the Missouri State Medical Association, held in Hannibal, May 3-5, the following officers were elected: President, Dr. Herman E. Pearse, Kansas City; vice-presidents, Drs. George Homan, St. Louis; Joel Y. Hume, Armstrong; Walter A. Camp, Springfield, and John Ashley, Bloomfield; councilors—second district, Dr. Luther A. Todd, St. Joseph; third district, Dr. G. W. Whiteley, Albany; fourth district, Dr. Samuel Sheldon, Trenton; fifth district, Dr. Edward E. Parrish, Memphis; sixth district, Dr. James Hanks, Brashear; seventh district, Dr. Jacob D. Smith, Shelbina; eleventh district, Dr. Jefferson D. Brummall, Salisbury; twelfth district, Dr. Clarence M. McConkey, Lathrop; seventeenth district, Dr. Samuel G. Kelly, Sedalia; secretary, and editor of the *Journal of the Missouri State Medical Association*, Dr. Edward J. Goodwin, St. Louis; treasurer, Dr. J. Franklin Welch, Salisbury; orator on medicine, Dr. Enoch H. Miller, Liberty; orator on surgery, Dr. Robert M. Funkhouser, St. Louis. Dr. Joseph Grindon, St. Louis, was elected chairman, Dr. William L. Brosius, Gallatin, vice-chairman, and Dr. Charles H. Dixon, Holliday, secretary of the medical section; and Dr. Arthur E. Hertzler, Kansas City, chairman; Dr. W. T. Lindsey, vice-chairman, and Dr. Ernest G. Marks, Kansas City, secretary of the surgical section.

St. Louis

Personal.—Dr. George C. Crandall has succeeded Dr. Ralph L. Thompson as a member of the new board of health.——Dr. Walter C. G. Kirchner, superintendent of the city hospital, and Dr. Cleveland H. Shutt, assistant superintendent, have resigned.

Endowment for University.—Messrs. William K. Bixby, Adolphus Busch, Edward Mallinckrodt and Robert S. Brookings have donated more than $2,000,000 for the medical department of Washington University, and construction of new buildings to cost more than $1,000,000 will begin at once. The following additions to the faculty have been announced: Dr. George Dock, from Tulane University, to direct the department of medicine; Dr. John Howland, from the University and Bellevue Hospital Medical College, professor of pediatrics; Dr. Eugene L. Opie, from Rockefeller Institute for Medical Research, professor of pathology; and Dr. Joseph Erlanger, from the University of Wisconsin, professor of physiology.

NEW YORK

Personal.—Among those nominated as members of the board of managers of the new Mohansic State Hospital by Governor Hughes were Helen M. Gould and Dr. William D. Granger of Bronxville.——Dr. Charles F. Howard of Buffalo recently resigned the presidency of the State Prison Commission and Henry W. Solomon of New York City has been elected in his place.

Urologists Meet.—At the annual meeting of the New York Society of the American Urological Association, April 27, a symposium on "Movable Kidney" was held, which was participated in by members of the society and invited guests from the New England Urological Society. The following officers were elected: Dr. Edward L. Keyes, Jr., New York City, president; Dr. Terry M. Townsend, New York City, vice-president; Dr. G. A. De Santos Saxe, New York City, secretary; Dr. Walter B. Brouner, New York City, treasurer (re-elected), and executive committee, Drs. Clarence R. O'Crowley, Newark, N. J., Victor C. Pedersen, New York City, and Terry M. Townsend, New York City.

New York City

Lecture on Malignant Disease.—Dr. William Seaman Bainbridge gave his annual lecture on Malignant Disease at the out-patient hall of the New York Skin and Cancer Hospital, April 20.

Gifts to Columbia University.—It was announced at the last meeting of the trustees of Columbia University that gifts amounting to more than $60,000 had been received recently. Among these gifts was one of $18,000 from the children of Dr. Abraham DuBois, who was graduated from the College of Physicians and Surgeons in 1835, to be used to establish a research fellowship in the medical department in memory of their father.

Personal.—The council of the New York Academy of Medicine has recommended the election of Dr. Abraham Jacobi to honorary fellowship.——Dr. and Mrs. William Dillon of Brooklyn have sailed for Europe.——Dr. Hans Zinsser, instructor in bacteriology in Columbia University, has been made associate professor of bacteriology in Stanford University, California.——Fire in the residence of Dr. Anthony Bassler, Manhattan, caused damage to the extent of $5,000.——Dr. Russell-Burton Opitz has been appointed associate professor of physiology in Columbia University.

Buffalo

Personal.—The latest reports regarding the condition of Dr. Roswell Park, Buffalo, who is ill in the New York Hospital with pneumonia, are favorable.——Dr. George J. Haller, Buffalo, was injured recently while cranking his automobile.

Hospital Notes.—The commission recently appointed by the mayor of Buffalo to inquire into the hospital conditions of the city, severely criticizes the administration of the Erie County Hospital and recommends that it be purged of politics, and that instead of being administered by the superintendent of the almshouse under the direction of a board of supervisors, a commission be appointed by the mayor, two members being named by the county judge.——A joint committee has been appointed consisting of three members each of the Buffalo Board of Aldermen and the Board of Councilmen with the idea of breaking the deadlock as to the selection for a site for a municipal hospital for contagious diseases.——The German Hospital, Buffalo, has acquired two additional lots.——The German Deaconess Hospital, Buffalo, is raising $100,000 for an addition to the institution.

PENNSYLVANIA

Employment for Cured Consumptives.—The Philadelphia Jewish Sanatorium for Consumptives, Eaglesville, has solved the problem of finding suitable and lucrative employment for the cured consumptive. The managers offer to assist discharged patients in finding work and suggest that they move to the country, telling them that if they will start truck farms, poultry farms or dairy farms, the sanatorium will buy all of their products.

Jefferson Alumni at St. Louis.—The arrangements for the meeting of Jefferson Medical College alumni during the session of the American Medical Association at St. Louis have been placed in the hands of Dr. August P. Munsch, Bright Building, Kingshighway and Page Avenue, who calls attention to the fact of the meeting and requests that each one intending to be present at the gathering send name and two dollars to him, that he may be able to estimate the number to be present and make suitable arrangements for them. Cards of admission, stating the time and place of the meeting, will be addressed to all those who respond, in care of the postoffice of the American Medical Association at General Headquarters.

Philadelphia

Retiring Professor Honored.—Three hundred physicians of this and other cities gave a banquet on May 5 in honor of Dr. James Tyson, on his retirement from the professorship of medicine in the University of Pennsylvania and presented him with a large silver loving cup. Dr. W. W. Keen presided and among the speakers were Dr. Frank Billings, Chicago; Dr. Reginald H. Fitz, Harvard University; Dr. George A. Piersol, University of Pennsylvania medical faculty, and John Wanamaker.

Smallpox Liner in Port.—The North German Lloyd steamship *Main* from Bremen passed the inspection of quarantine and immigrant officials, arrived in this city and the immigrant passengers were on their way to Baltimore when the discovery was made that two immigrants, who had been landed at the government quarantine at Reedy Island, supposed to have chickenpox, had in reality smallpox. A telegraph message stopped the train near Baltimore and brought it back to Philadelphia for vaccination of the passengers. The *Main* brought 2,410 passengers into port, 45 of whom were cabin passengers.

Personal.—Dr. Leo Loeb has resigned as assistant professor of experimental pathology in the University of Pennsylvania to become director of the pathologic department of the St. Louis Skin and Cancer Hospital, on September 1, this year. Dr. Moyer S. Fleisher, Overbrook, accompanies Dr. Loeb as his assistant.——Dr. John M. Swan, associate professor of clinical medicine in the Medico-Chirurgical College, has resigned and will become medical director of Glen Springs Sanatorium, Seneca Lake, N. Y.——Drs. John Sibbald, Fox Chase, James Sibbald and George Holland have sailed for Europe.——The trustees of the University of Pennsylvania have elected the following members of the teaching staff of the medical department: Dr. Richard M. Pearce, professor of experimental medicine; Dr. Alonzo E. Taylor, professor of physiologic chemistry, and Dr. Paul A. Lewis, assistant professor of pathology.

Phipps Institute Plans Work.—Plans have been adopted for the conduct of the Phipps Institute, now a department of the University of Pennsylvania, and a most comprehensive campaign for the prevention and cure of tuberculosis will be undertaken. The scope of the work to be performed was evolved after weeks of labor by a committee of physicians, comprising John H. Musser, David L. Edsall, Alexander C. Abbott and Charles H. Frazier. As soon as possible the new building will be erected at Seventh and Lombard Streets, the site first bought by Henry Phipps, and architects are now at work on the plans and specifications. In accordance with the desire of Mr. Phipps, it will be the most complete hospital for the treatment of consumptive patients in the United States. The trustees have elected the following men to direct the work of the institution: Director of the laboratory, Dr. Paul Lewis; director of the clinical department, Dr. Henry R. M. Landis; and director of the sociologic department, Alexander Wilson, who will be superintendent of the institute and with the director of the laboratory will devote all his time to the work. The laboratory is to be fitted for the most exacting scientific research and included in the program of the sociologic department mapped out by Mr. Wilson and adopted by the committee and trustees are the following:

Make an effort to get in touch with every case.

Use existing city, State and private hospitals and sanatoria for all patients who can be admitted.

Cultivate open-air sleping and living on the part of the out-patients, providing sleeping balconies if necessary.

Organize as many classes as possible in the churches, clubs, unions and societies.

Obtain volunteer visitors to work under direction of nurses in the classes and follow up "arrested" cases.

Work in conjunction with school physicians and nurses in having suspected cases examined.

Teach the preparation of simple, palatable dishes.

Investigate ventilation and sanitary conditions in the schools, factories and other places of employment.

Obtain information of all the bad housing conditions in every section of the city.

Work with the Health Department, the house owner and tenant in making each house a fit habitation.

It has been decided to appropriate $5,000 for the maintenance in the laboratory work the first year and $1,800 for the clinical department. As the sociologic department will have many ramifications, the first appropriations to conduct this labor will include $500 for an assistant to the superintendent; $2,300 for out-patient nurses; $1,200 for educational work; and $3,900 for emergency and special expenses. The institute will be governed by a board of directors composed of eight members, of which Provost C. C. Harrison of the University will be president ex-officio. The other members included the three heads of the institute and the following: Dr. John H. Musser, for medical council; Dr. Robert G. LeConte, of the board of trustees; George E. Gordon, representing the donor; and Dr. Charles J. Hatfield of the Pennsylvania Society for the Prevention of Tuberculosis. Members of the advisory council, who will hold a meeting once a year, are as follows:

Pathologic Department—Dr. William H. Welch, Baltimore; Dr. Theobald Smith, Boston; Dr. H. Gideon Wells, Chicago; Dr. Simon Flexner, Rockefeller Institute, New York. Clinical Department—Dr. James A. Miller, New York; Dr. Lawrason Brown, Saranac Lake, N. Y.; Dr. Joseph Pratt, Boston; Henry Baird Favill, Chicago. Sociologic Department—Dr. Samuel McC. Lindsay, New York; William H. Baldwin, Washington; Dr. Herman M. Biggs, New York; Dr. Samuel G. Dixon, Harrisburg, Pa.

GENERAL NEWS AND COMMENT

Insurance Examiners to Meet.—The American Association of Medical Examiners will meet in St. Louis, June 6 to 7, and will have headquarters at the Planter's Hotel. The secretary is J. C. Monihan, 134 N. Broad street, Philadelphia.

Ophthalmologists Meet.—At the annual meeting of the American Ophthalmological Society, held in Washington, May 3, Dr. Emil Gruening, New York City, was elected president; Dr. Edward Jackson, Denver, vice-president, and Dr. William M. Sweet, Philadelphia, secretary-treasurer (reelected).

Surgical Society Election.—The American Surgical Association, at its recent meeting in Washington, elected the following officers: President, Dr. Richard H. Harte, Philadelphia; vice-president, Dr. George A. Armstrong, Montreal; secretary, Dr. Robert G. LeConte, Philadelphia; treasurer, Dr. Charles A. Powers, Denver, and recorder, Dr. Archibald MacLaren, St. Paul.

Dermatologists Meet.—At the thirty-fourth annual meeting of the American Dermatological Association, held in Washington May 3-5, the following officers were elected: President, Dr. Douglass W. Montgomery, San Francisco; vice-president, Dr. Martin F. Engman, St. Louis; secretary-treasurer, Dr. James McF. Winfield, Brooklyn, and councilor at large, Dr. Charles J. White, Boston. Boston was selected as the next place of meeting.

Session of Throat, Nose and Ear Specialists.—The American Laryngological, Rhinological and Otological Society held its sixteenth annual meeting in Washington April 30, and elected the following officers: President, Dr. Chevalier Jackson, Pittsburg, Pa.; vice-presidents, Drs. Harris P. Mosher, Boston; Lafayette Page, Indianapolis; James L. Kent, Lynchburg, Va., and William F. Dudley, Brooklyn; secretary, Dr. Thomas J. Harris, New York City; treasurer, Dr. Ewing W. Day, Pittsburg, and councilors, Drs. James F. McKernon, New York City; Joseph A. White, Richmond, Va., and Norton L. Wilson, Elizabeth, N. J.

National Antituberculosis Association Meeting.—At the sixth annual meeting of the National Association for the Study and Prevention of Tuberculosis, held in Washington last week, the enforcement of the anti-spitting law was an important topic for discussion before the sociologic section. In forty-three cities the police are supposed to enforce this law; in sixteen cities health officers have this duty; and in eleven cities both police and health officers are responsible. Resolutions were adopted favoring the establishment of a national public health department, and opposing the action of the Oklahoma State Board of Medical Examiners in excluding from practice physicians who have had tuberculosis, and the Nebraska law which requires indigent tuberculosis patients to take the serum course of treatment. The following officers were elected: President, Dr. William H. Welch, Baltimore; vice-presidents, Drs. Victor C. Vaughan, Ann Arbor, and George Dock, New Orleans; secretary, Dr. Henry Barton Jacobs, Baltimore; and treasurer, Brigadier-General George M. Sternberg, U. S. Army, retired, Washington, D. C.

RECEPTION TO DR. ABRAHAM JACOBI

The Medical Society of the State of New York honored Dr. Jacobi by a reception at the New York Academy of Medicine on his eightieth birthday, May 6. The reception was very informal and the addresses brief.

DR. JOSEPH D. BRYANT, who presided, said: "It is hardly necessary for me to say that we are here to express in the simplest and most democratic manner possible our appreciation and affection for Abraham Jacobi. It is proper that you should understand this unpretentious plan of greeting is in accordance with the modest notions of Dr. Jacobi himself—in fact, a plan of welcome which Dr. Jacobi had hoped to extend to the members of his profession on his eightieth birthday, had not the opportunity been forestalled by the action of the Medical Society of the State of New York. The important fact should not be overlooked that we are honoring our profession and ourselves in thus honoring one to whom the full measure of honor is due, especially in professional and civic paths of thought and action. As our friend older in time than but few of us; younger in activity than most of us; larger in experience than any of us; how fitting, therefore, it is that we, on his eightieth birthday transmit to enduring substance the likeness of Dr. Abraham Jacobi."

DR. CHARLES JEWETT, president of the Medical Society of the State of New York, made the presentation in these words: "We are mindful, Dr. Jacobi, of the distinct service that you have rendered to the medical society of the state by your many helpful councils as well as by your scientific work. You have left us for an example a high professional standard and a high standard of good citizenship. We are keenly sensible of the extent to which your achievements have added to American medicine. The society wishes to show you the respect and affection in which it holds you, and as a token of that regard present you with a likeness of one of the world's most eminent citizens and most venerable men." The bronze portrait relief, the work of Miss Harriet W. Frishmuth, was unveiled by Dr. Jacobi's little granddaughter. It is mounted in an oak frame and is about two by three feet in dimension. It is a hip-length, three-quarters view, about three-fourths life-size likeness of Dr. Jacobi, in the attitude so familiar to all those who know him. He holds a paper in his right hand, while the left is in his coat pocket, and he seems to be about to begin reading. It is quite generally agreed that the bronze is a very accurate likeness of Dr. Jacobi and a credit to the artist. It bears the inscription, "Abraham Jacobi, aet. LXXX," and in the background the date, "MCMX."

DR. JACOBI, in accepting the portrait, said: "This conspiracy of friends began in the house of delegates of the Medical Society of the State. Here I am, the beneficiary of their goodwill and old and young friendships, with nothing left me except an old heart full of gratitude and no words sufficient to express it. It is a source of gratification, however, that occasions are becoming more frequent for practitioners and scientists, who mostly lead hermit lives, to meet for a handshake and a cordial talk. I wish that I could sign my name to all the eulogies that have been pronounced on me lately. I am going to collect a number of them so as to learn what I shall have to live up to, in order not to disappoint my friends, in coming days, or months, or years. Preferably years, for I am not anxious to descend from the heights on which you have condescended to place me, or to give up the solution of common problems. The poet tells us the gods require many brave men in their service on this wide globe. My happiness is to have lived long enough for you to say that I was one of the brave men wanted for the tasks to be undertaken.

"Ancient medicine down to the Homeric age was revered for its service to the individual sufferer. Sacred was the man who relieved a pain or extracted an arrow. Wise men of antiquity and of the middle ages obtained for medicine the front seat in the council chamber of justice and of statesmanship and of human affairs generally. This was not appreciated, however, for centuries. It was but little over a century ago that J. P. Frank wrote his great work on forensic medicine, thus connecting the science and art of healing as it was then with the most sacred interests of civilized mankind. The middle of the past century established sound foundations on biological methods of experimentation and general research; individual disease came to be recognized as a normal process influenced by untoward, mostly preventable, circumstances; epidemics were studied in their connection with microbic germs and rendered amenable to prevention; and the salvation of the individual and of the commonwealth pinned its hope more on sanitation than on medication. With improving knowledge and philosophic insight the morals of the profession have improved. The physician who is in daily contact with suffering which speaks to his heart, and with the cares of worrying and distracted families and the human problems connected with all ages from infancy to senility, cannot help becoming more warmhearted with years, decades, generations. It takes malice and insufficient information to believe they can make the world believe that the unselfish workers at the bedside and in the laboratory, with a financial pittance or no reward at all, have become brutal and fiendish, and anxious to cover the trails of criminal cruelties committed against helpless animals. That charge might be dismissed as ludicrous; but being in its results dangerous to the public interest, to the health and life of all that is living, and to the confidence bestowed by the stricken people in their healers, it is high treason. So it has come to pass that they heap infamy on men in the profession, who, while making a scanty living out of their daily labor, are indeed undermining their own existence, digging their own graves by altruistic work for the extermination of disease. Why? They follow their flag. That flag has the inscription: 'Ignorance is a crime.' Under that flag this New York Academy of Medicine and the profession of the county, state and country have always cooperated. Under it this academy began twenty years ago its agitation for the creation of a central health bureau with a seat in the cabinet of our President. The American Medical Association and lately Senator Owen are active in the same interest which is the cause of eighty millions of people, who should not be born or not immigrate merely to be immolated on the altar of ignorance and neglect. Under it medicine and the doctor will be recognized as the guardian of yourself, your children and your neighbors, and the protector of social progress. Under it future generations of doctors will participate in the activities of political and social life, not forgetting their responsibilities to their personal duties and to their profession. Our political and social, and to a great extent, our scientific standing has been worked out in our democratic associations extending over a century. Our county and state societies have been the cradle of our existence, as they have fought for our rights and those of the people when jeopardized by ignorance or egotism. Our first allegiance, your first allegiance, belongs to the medical societies of the county and state. I do not believe in the good citizenship of an American physician whose honorable craving is satisfied without membership in his county and state societies. I wish to send out everybody here as an apostle of that conviction. The touching demonstration of the evening means nothing else, originating as it does in the State Society, but the recognition of my loyalty to the Medical Society of the State of New York. I wish that I might have been able to say something that might find its way to the hearts and minds of the public and of my professional friends. Such occasions as this have always made a lasting impression on me. They have solidified interests, warmed affections, enhanced mutual respect, guaranteed generous support. I once more have the honor to greet you, to thank you for your presence, and, Mr. Chairman and President, for your precious gift and the opportunity to see so many friends. I thank you a thousand times."

LONDON LETTER

(From Our Regular Correspondent)

The Cause of the Death of King Edward

The *British Medical Journal* states that for years King Edward suffered from emphysema and a tendency, more or less acute, to bronchitis with the usual symptoms of a distressing, ineffective cough and a difficulty of breathing. There was a crepitation at the bases of both lungs, indicating a chronic impediment to the free passage of air into the smaller bronchial tubes. He was subject to attacks of laryngitis, but except for some inflammatory thickening at the posterior part of the glottis and chronic catarrh of the throat, there was no trace of disease in the upper air passages. The king had what is known as a smoker's throat.

This, with the accompanying congestion and thickening, combined with the loss of elasticity in the lungs, made it increasingly difficult for him to clear his chest. The strain thrown on the heart by the obstruction to the passage of blood through the lungs, caused by the collection of secretion in the bronchial tubes, in turn caused dilatation of the right ventricle. The actual cause of death was heart failure due to increasing difficulty in pulmonary circulation.

It was a case of a type to be seen every day in thousands of elderly persons. Could the king have been induced to spare himself more he might have lived many years longer. He had suffered from glycosuria of a varying degree for a long time, but so far as can be judged this did not shorten his life.

Another condition which must have caused considerable discomfort at times was a certain weakness in the abdominal wall at the site of the operation for appendicitis which was performed in 1902.

The hurried journey from Biarritz, says the *British Medical Journal*, would have taxed his strength even had he been in perfect health. Suffering as he was from the effects of a recent illness, he might fairly have been excused from facing the risk of returning from the south to the cloudy skies, cold winds, and showers of the treacherous English spring.

Death from Hydrophobia After the Pasteur Treatment

The passing of a very wise act some years ago making the muzzling of dogs compulsory has exterminated rabies from Great Britain, and hydrophobia is never contracted there now. A soldier, aged 24, of splendid physique, died in London under distressing circumstances from hydrophobia contracted at Gibraltar. In that place both he and another man were bitten in the street by a mad dog and were sent to the Pasteur Institute last September. There was some delay in sending them as the North German Lloyd Steamship Company refused to take them and they had to wait for a P. and O. boat. One man died within a month, but the other came home to London and displayed symptoms of hydrophobia only a fortnight ago. He was taken to hospital in a desperate condition, unable to swallow, very violent, and saying he was going mad. He suffered from thirst but when he attempted to drink a severe spasm of the muscles of respiration occurred. During all his suffering he was sensible and he prayed the physician to cut his throat so that he could inspire.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, April 29, 1910.

The Vomiting of Pregnancy

On April 26 Dr. Pinard, professor of clinical obstetrics, read an interesting paper before the Académie de Médecine on the vomiting of pregnancy, in which he drew attention, especially, to the modifications of the pulse which accompany this vomiting. According to Dr. Pinard, the acceleration of the heart-beats is the first manifestation of the toxemia which brings on a vomiting in pregnant women, the toxemia being apparently due to a poison secreted by the ovary or by the ovum. It is necessary to take the pulse at least every four hours in a pregnant woman who is vomiting and presenting an acceleration of the heart-beats, in order to be informed in regard to her real situation, which is essential for the sake of prognosis and treatment. As soon as the pulse permanently exceeds one hundred pulsations the dehydration of the body seems to be accomplished rapidly. The skin, which has an earthy appearance, often presents a subicteric tint, the urine becomes scanty, thick and mahogany-colored; the respiration becomes accelerated; the tongue becomes red and has a varnished appearance; and with or without hallucinations and a tendency to syncope, coma appears and the woman dies. For every pregnant woman attacked with vomiting, Dr. Pinard advises, in the first place, a diet of milk and vegetables, and, if the vomiting persists, a purely milk diet. When this therapeutic régime is ineffective or when it has not been advised or followed and the vomiting persists, accompanied by the symptomatic picture previously mentioned, the number of pulsations per minute being above 100, it is necessary to interrupt the pregnancy at once. If there is any delay this intervention will become useless, for death will occur notwithstanding, caused by the poisoning of the nervous system.

Modification of the Properties of Leucocytes During Surgical Anesthesia

During the same session of the Académie de Médecine, Dr. C. Achard, professor of general pathology at the Paris college of medicine, read a paper from which it appears that in patients who undergo anesthesia, there is a temporary weakening of the two essential properties of the white corpuscles, namely, resistance and activity, which, though it disappears at the end of twenty-four hours, continues for a certain time after the awakening of the patients. This effect may be appreciated from the relative slowness with which, in spite of the rapidity of its action, the anesthetic is eliminated. Thus ether, in spite of its extreme volatility at the temperature of the body, is for a long time to be found in the expired air by which it is chiefly eliminated. The weakening of the passive and active properties of the leucocytes during surgical anesthesia shows that anesthetics exercise their action on the whole organism and even on the cells which are isolated from all direct influence of the nervous system. The intensity of these effects, their persistence for several hours and the consequences to the defense of the organism against poisoning and microbes—these considerations may aid in the comprehension of the cause of certain post-operative accidents, such as infections of respiratory or digestive origin.

Modification of the Law on the Practice of Medicine

A law modifying, as I indicated in my letter (THE JOURNAL, Aug. 7, 1909, liii, p. 468), the law of Nov. 30, 1892, on the practice of medicine has just been promulgated. While up to the present physicians, surgeons, dentists and midwives have been required to register their diplomas within a month after their establishment, according to the new law they must have their diplomas registered as soon as they have established and before beginning the practice of their profession.

The Châteauvillard Prize

This prize, amounting to 2,000 francs ($400) is awarded each year by the Paris college of medicine to the best work on medical science in French, printed between January 1 and December 31 of the previous year. This year the college has awarded this prize to Dr. A. Sézary of Paris, for his thesis entitled "Anatomic-Pathologic, Clinical and Experimental Researches on Sclerous Inflammations of the Adrenal Glands."

Prize in Naval Medicine

The prize in naval medicine for 1909 has been awarded to Dr. A. V. Michel for his report of general inspection in regard to the fishermen and the hospitals of Iceland.

Commission for the Revision of the Codex

A special permanent commission has been just organized at the Ministry of Public Instruction to prepare the next edition of the French pharmacopeia (Codex medicamentarius). This commission is charged, moreover, with the preparing for publication the supplements for the pharmacopeia of 1908, if any are required.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, April 21, 1910.

International Committee for Postgraduate Medical Education

At the Budapest international medical congress an international committee for the furtherance of postgraduate instruction was established under the initiative of the German central committee. The purposes of this committee were indicated as follows: The advancement of medical postgraduate instruction in various countries, a description of the arrangements with a view to mutual stimulation and instruction, information regarding the relation of academic instruction to postgraduate teaching in various countries, communications regarding methods of teaching, dissemination of information regarding the opportunities for postgraduate instruction in various countries, exchange of noted scientists for the purpose of instructing physicians in regard to important improvements, etc. The committee is now instituting a collective investigation and is sending out circulars for this purpose. Information is required regarding : A. The academic university instruction and the technic of preparatory instruction, of the teaching of pathologic anatomy, bacteriology and hygiene and in social medicine, and also regarding the legal requirements for the entrance of students and for the examinations, as also the organization of university instruction for military surgeons. B. Medical postgraduate work, its general organization and special institutions. C. Method of medical teaching, the auxiliary material for demonstrations and the institutions for teaching material, collections, etc. A second question blank enquires concerning the medical postgraduate courses that will take place in the period from September 1 to April 1, 1911, their place and time, whether foreigners may participate, what subjects will be taken up and what fees will be required. On the occasion of the hundredth anniversary of the Berlin University, an extraordinary session of the committee in Berlin is proposed to discuss the organization of the collective investigation and changes in the question circular; provision for an international distribution of information in regard to medical and postgraduate instruction, and also the fees for membership to be paid by individual states to the international committee.

Social Legislation

The data furnished to justify the new bill for social insurance throughout the empire contain statistical material of general interest because it shows in figures the extent of social

legislation in Germany in many directions. The empire contributes for pensions for disability, disease and old age $12 (50 marks) per capita per annum. For the proposed insurance of survivors, according to the new bill, an imperial contribution must be made to every widower or widow of a pension of $12 and to every widow's settlement $12, and to every orphan pension $6, and to the dower of every orphan $4. Up to 1908 (since 1891) there has been paid altogether for disability pensions about $375,000,000 (1,500,000,000 marks); the empire has contributed to this about $130,000,000 (535,000,000 marks). For the contemplated disability insurance the contributions of the empire would have to amount to about $700,000,000 (2,815,000,000 marks). If the amounts contributed for the purposes of the social legislation by the employers, the workmen and the government are compared with each other, it is found that the government bears about a third of the expense of disability and inheritance insurance, and a third each is borne by the employers and by the workingmen. In the illness insurance, the expenditures for the years from 1904 to 1907 were as follows: For medical treatment about $25,000,000; for medicines and other material for treatment about $17,000,000; for payments to the sick about $50,000,000; for expense of care and treatment in hospitals about $17,000,000. The total insured were about 13,000,000 people. According to the new bill, the number of persons to be insured will be increased by about 8,000,000, so that hereafter the entire number of those entitled to insurance will amount to about 21,000,000. This extension of the illness insurance will increase the total expense by about $15,000,000. From the time that the social legislation went into force till the end of 1907, about $2,000,000,000 (8,095,386,971 marks) were expended by the employers, the workingmen and the government for the insurance of workingmen in the German empire, of which about $900,000,000 were applied to sickness insurance, $450,000,000 to accident insurance and about $650,000,000 to disability insurance.

Inebriety Statistics

Statistics of the persons addicted to alcohol in the general sanatoriums of Prussia from 1877 to 1907 have been published by the Prussian statistical bureau. The tables show a considerable and with some exceptions a steady increase in the number of inebriates cared for, in the sanatoriums: for 1877, 3,052 (2,854 men and 198 women); for 1887, 10,410 (9,775 men and 635 women); for 1897, 12,256, and for 1907, 17,302 (16,343 men and 969 women). This marked increase (about six-fold in thirty years) does not reflect accurately the increase in inebriety, as sanatorium treatment may be more extensively applied at the present time than thirty years ago, and the number of institutions has increased, while neuropathic inebriates permit themselves to be sent to sanatoria more readily than formerly.

The fact that the consumption of alcohol in Germany is very large is shown by an article in the *Reichsarbeitsblatt*, the imperial labor journal, according to which Germany stands second among the various countries in the use of spirits. The highest consumption of spirits is in Denmark. But as a whole, consumption of spirits is decreasing, except in America, and very markedly of late in Germany—a fact which is probably to be attributed to the boycott on spirits by the social democrats of which I have previously informed you. England takes first place in consumption of beer, Germany second. In the average for the years 1904 to 1908 there was a yearly consumption in Germany per capita of the population of 3.86 liters of 100 per cent. alcohol as spirits, and of 116.66 liters of beer. Assuming the average price per liter of 100 per cent. spirits as 24 cents (1 mark) and of a liter of beer as 8 cents (0.3 mark), the population thus spends annually per capita for brandy, 93 cents (3.86 marks) and for beer $8.40 (35 marks). With a total population of 64,000,000, this represents an expenditure of $596,880,000 (2,487,000,000 marks) alone for beer and spirits. If the use of wine is estimated according to previous figures at 5.82 liters per capita and the price is taken as 1 mark per liter, the amount stated would be increased by about $93,122,000 (372,500,000 marks). The entire yearly expense for alcoholic drinks would approach $750,000,000 (3,000,000,000 marks), more than twice as much as the expense for the army and navy, more than four times as much as the appropriations for the entire industrial insurance, and about five times as much as the expenditures for the public schools. The rôle which alcohol plays in the economy of workingmen is shown by an investigation of the imperial statistical bureau among a limited number of families of workingmen, officials and teachers; the entire expenditures in 155 workingmen families for the whole year were $430 (1,789.35 marks), of which 4.8 per cent. was spent for alcoholic drinks; 50 families of government employees had an entire expense of $685 (2,850.89 marks), including 2.5 per cent. for drink. Among the families of workingmen, the expenditure for alcohol is not only relatively but absolutely higher. The relation of the expenditures for alcohol to those for food of workingmen is 8.02 per cent.; among government employees, 3.12 per cent. Other calculations show that German workingmen consume more alcohol than the American.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, April 28, 1910.

Fourth Meeting of the Society for Experimental Psychology

The Society for Experimental Psychology held its fourth regular meeting in Innsbruck, the capital of the Austrian Alpine district, and devoted four days to its work. There were present all leading investigators of this branch from Austria, Germany and Switzerland, while England and America were also represented. Professor Mueller of Göttingen was chairman of the meeting.

Professor Monakow of Zürich gave a report on the localization of various kinds of bodily movements in the higher brain centers. Pick of Prague dealt with results obtained by him in examinations of the visual fields by means of his improved perimeter. His observations confirmed the advisability of the general use of a perimeter in all cases of nervous disease. Spearman of London read a paper on the coefficients of correlation in the study of psychic disease, which he recommends very warmly, in spite of the skepticism of numerous psychologists. Lipmann of Berlin gave a synopsis of his very interesting experiments on the various types of visual perception. The same objects were perceived differently by different persons according to the fact that some persons regard more the color, others more the size, others more the shape of the things. S. Exner's paper on the hereditary transmission of psychic qualities was much discussed. He, like Kammerer, has found that instinctive actions in animals, when the latter have been forced to perform them, are inherited even in the second generation. Therefore, it is only just to assume that a higher psyche is also influenced by inherited psychic qualities. Guttmann's observations on color-blind dichromatic persons and on persons with anomalies of the color-sense show that these two types of persons are in near relations to each other, having in common the observation of differences of light, of saturation with color, and quick fatigue of the color-sense.

The third day was devoted to the study of physiology of the auditory organ. Alexander and Bárány of Vienna reported on the present state of the knowledge of the vestibular organ, while Kohler of Berlin read a paper on the perception of simple tones. He could demonstrate that each simple tone has a special pitch, which is constant. The series of the tones with the clearest pitch corresponds with the series of the vowels (as they are pronounced in German), u (oo), o, a (ah), e (ay), i (ee). The number of vibrations which corresponds with u is 263 vibrations; the next vowel, o, is distant nearly an octave (515 or double the number), a (German a or ah) has 1,046 vibrations (again an octave or double the number). The last day brought several papers by German and Swiss professors, but dealing with special subjects of minor importance for the practitioner.

Pregnancy and Labor of One of the Siamese Twins

There live in Prague twin sisters, known as the "Siamese twins," who are united to each other by a solid bridge of tissue, with some cartilage and bone enclosed, in the region of the hip-joint and the brim of the iliac bone. Several attempts at separation have been suggested, but refused by the twins because they desired to exhibit themselves for money. One of the twins suffered a few years ago from cholelithiasis, and had to be operated on in the surgical clinic of Prague, where examination revealed that apart from the malformation of the connecting iliac bone, the two persons have separate and independent bodies and independent bodily functions. A few days ago the twins, now 36 years of age, again came to the clinic, as the former patient again suffered from colicky pains. The surgeon made a diagnosis of advanced pregnancy or rather incipient labor. Although that possibility was absolutely denied by the girls, the patient soon gave birth to a healthy boy, and later, after repeated questioning, confessed. The other sister felt nothing at all of the pain of the mother so closely united to her, and when the next day the temperature of the mother went up two degrees the temperature of the other twin remained normal, showing the absolute separation of the two organisms as regards function and metabolism.

Pharmacology

MORE MISBRANDED NOSTRUMS*

The Food and Drugs Act Continues to Make Lying on the Label Unprofitable

When the Food and Drugs Act was passed in 1906, many makers of sophisticated food-stuffs as well as nostrum manufacturers, took the attitude that the law was more or less a joke. They looked on it as merely the outward and visible sign of the fruits of the campaign that had been carried on in lay and medical publications against "patent medicines" and food adulteration. As such these same manufacturers imagined that it would be but a few short months before the easily-forgetting public would cease to be interested in the subject, and the law would lapse into a state of innocuous desuetude. In the latter prophecy they have shown their powers of divination to be poor. Thanks to a virile and fearless official at the head of the Bureau of Chemistry, aided by a wide-awake medical profession and supported by many of the better class of lay publications, the "Pure Food Law" is an ever-present reality. What has been accomplished may be realized when it is known that in over 260 prosecutions the government has secured conviction in all but 3 cases. The majority of these violations of the law have been by food manufacturers rather than by nostrum makers, but a number of them have been by the latter. The following are the latest convictions of nostrum makers, with the facts as given in the government's official "Notices of Judgment:"

"DR. PARKER'S UNIVERSAL HEADACHE CURE"

This product was marketed by the W. R. Plank Drug Co., Fond du Lac, Wis., and was found to contain:

Acetanilid	Caffein
Sodium bicarbonate	Gummy material

The presence of acetanilid in the preparation was not stated on the label, though there was a reference to phenylacetamid, a synonym for acetanilid not recognized by the Food and Drugs Act for labelling purposes. The product was deemed misbranded and a fine of $25 imposed.

"O. K. HEADACHE CURE"

This nostrum was manufactured by the Houston Drug Co., Houston, Texas, and was labelled as follows:

"Cures any Kind of Headache, Perfectly Harmless."

A sample of the nostrum having been seized by the Federal authorities was analyzed and found to contain:

Acetanilid	Alcohol

Inasmuch as acetanilid is not a sure cure for headache, is not "perfectly harmless" and as, further, the law requires the presence of both acetanilid and alcohol to be stated on the label—which was not done—the product was declared misbranded. A fine of $50 was the result.

"HUTHWELKER'S HEADACHE TABLETS"

Adam C. Huthwelker of Baltimore puts out this preparation, which was claimed to be "A Positive Cure for Every Form of Headache and Neuralgia," and was further represented as being "harmless." Analyzed in the Bureau of Chemistry it was found to contain acetanilid. As the label failed to contain a statement of the quantity or proportion of the drug and as, in any case, acetanilid is neither "harmless" nor a "positive cure," the tablets were declared misbranded and Huthwelker was fined $10.

"PRESTON'S HED-AKE"

The label attached to the container in which this drug came, and which was sold by the Parker-Blake Company, Ltd., New Orleans, bore such statements as these:

"Perfectly Harmless."
"Will prevent headache."
"It cures while you wait."
"A remedy for any kind of headache."

It was analyzed by the government chemists and according to their reports was found to be another of the acetanilid headache "cures." In view of the false and misleading statements quoted above the preparation was declared misbranded and the defendant, who pleaded guilty, was fined $10.

"U-RE-KA HEADACHE POWDERS"

Still another acetanilid mixture was found to be misbranded; this was the "U-RE-KA Headache Powders" manufactured at Perlitch's Prescription Pharmacy, Brooklyn. The cause for action in the case lay in the fact that the proportion and quantity of acetanilid present was not stated.

"MOTHER'S FRIEND"

This widely advertised fake is put out by the Bradfield Regulator Company, Atlanta, Ga. Some of the claims made for it were:

"Shortens the duration of labor."
"Will assist in the safe and quick delivery."
"Prescribed by many of our best physicians."
"Causes an unusually easy and quick delivery."
"For relief of the suffering incident to child-birth."

Samples taken from the consignment seized were analyzed by the Bureau of Chemistry of the United States Department of Agriculture and found to consist of:

Oil	Soap (small quantity)

The United States judge naturally declared the stuff misbranded.

"MAKE-MAN TABLETS"

This nostrum, the product of the Make-Man Tablet Company, Chicago, was sold under the following claims:

"Contains no poison."
"A brain, blood and nerve food."
"Make-man tablets make blood."
"Sold under an absolute guaranty to restore lost vitality."

The government seized 360 packages of this product and on analyzing a specimen the "Make-Man Tablets" were found to consist essentially of:

Strychnin	Arsenic
Aloes	Potassium Sulphate
Iron Carbonate	Iron oxid

Strychnin and arsenic being poisons and many of the therapeutic claims made for the tablets being false, the court declared the nostrum misbranded.

ACETON

Horace N. Wheeler, Mystic, Conn., doing business under the name of the "Aceton Medical Company," puts out Aceton. This preparation, he claimed, was a sure cure and an infallible remedy for influenza, a preventive of pneumonia, and a sure cure for headache and neuralgia. On analysis Aceton was found to contain:

Acetanilid	Caffein	Sodium Bicarbonate

This misbranding resulted in Mr. Wheeler being fined $75.

"DR. JONES' BEAVER AND OIL COMPOUND"

This nostrum, manufactured by Morris Spiegel, Albany, N. Y., was sold "for the treatment of rheumatism, neuralgia, sore throat and quinsy, headache, toothache, backache, bruises, sprains" and numerous other conditions. Though beaver and oil compound was "warranted as represented" there was found no beaver oil, nor, in fact, any animal oil, but essentially:

Gasolin
Oleoresin of capsicum
Oil of Sassafrass

The product was declared misbranded.

* These abstracts, based on the "Notices of Judgment" issued by the government, together with all others that have appeared in THE JOURNAL, have been reprinted in pamphlet form (illustrated); price four cents.

"SURE THING TONIC"

"Sure Thing Tonic" was sold by Furst Brothers of Cincinnati and, according to the government analysis, contained alcohol, sugar and water and was flavored with juniper. Some of the claims made for it were:

"Renews Vital Force."
"The Wonder Stimulant."
"Restores Nerve Energy."
"Invigorator and Exhilarant."
"Distilled by Modern Methods evolved from half a century of practical experience."
"Should be taken by every person, male or female, whether in need or not of a Tonic of its kind."

As the quantity or proportion of alcohol in the preparation was not given on the label, as the "booze" was not a "distilled product" as claimed and, further, as sweetened alcohol and water, flavored with juniper, will neither "restore nerve energy" nor "renew vital force," the product was deemed misbranded. The defendants pleading guilty were fined $10 and costs.

"PILSBURY'S COKE EXTRACT"

This product, which was manufactured by A. L. Pilsbury, Jr., New Orleans, La., was found on analysis to contain among other ingredients, cocain. As the label failed to contain a statement of the quantity or proportion of the drug, as required by the Food and Drugs Act, the preparation was declared misbranded and the manufacturer fined.

"CAFE-COCA COMPOUND"

This was a syrup manufactured by C. C. and F. H. Bowden, Athens, Ga., under the name of the Athens Bottling Works. On analysis it was found to contain cocain and not being labelled to that effect was declared misbranded and a fine imposed.

"LAMBERT'S WINE OF COCA"

The full name of this product was "Lambert's Wine of Coca with Peptonate Iron and Extract of Cod-Liver Oil" and according to the label it contained 22 per cent. alcohol together with "morrhuin, butylamin, iodin, bromin and phosphorus." It was manufactured by the Lambert Pharmacal and Chemical Co., Detroit. On analysis it was found to contain cocain, the presence of which was not given on the label, and it was further found to be free from iodin and bromin, said on the label to be present. Two shipments were seized and misbranding was proved in each case and two fines of $10 each imposed.

"KOCA NOLA"

This was a syrup for flavoring soda water and similar "soft drinks" put up by a company of the same name at Atlanta, Ga. This "Delicious Dopeless Koca Nola"—as the label had it—was found to contain cocain. Cocain being deleterious to health, was declared an adulteration under the act so that the Koca Nola Company was found guilty on two points: (1) failing to declare the presence of cocain and (2) adulteration. The Government made two seizures and the company was found guilty in each case and a fine of $25 on each count was imposed, making the total $100.

"RADAM'S MICROBE KILLER"

This hoary fake, which seems to have been revived lately, was shown up by Mr. Adams in the "Great American Fraud" and was at that time said to consist of:

Hydrochloric acid
Sulphuric acid
Red wine.

According to the government report the nostrum was represented as a cure for cancer, consumption, diabetes, diphtheria, yellow fever, paralysis and numerous other conditions. From recent advertising circulars obtained for THE JOURNAL files we find this fake recommended—in separate leaflets—as "The Sure and Safe Remedy for Men's Diseases" and also as "The Greatest Boon for Womanhood." Directions are given in the former pamphlet for the cure, by means of this stuff, of "gonorrhea," "gleet," "stricture" and "syphilis," while in the latter the cure of "leucorrhea," "falling of the womb," and numerous other "female complaints" is dealt with.

Twelve cases of the "microbe killer" were seized by the government and notice was served on Dean, Swift & Co., Washington, D. C., in whose possession this nostrum was found. No claimant having appeared to make answer to the charges the court decreed that the twelve cases of "Radam's Microbe Killer" should be destroyed and that Dean, Swift & Co. should pay all the costs of the proceedings.

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION.]

ZEMACOL

W. A. Puckner and W. S. Hilpert

Attention has been called to the vague and mysterious statements regarding a preparation called zemacol, manufactured by the Norwich Pharmacal Co., Norwich, N. Y. Because of the unsatisfactory statements regarding the composition of the preparation, it was considered of sufficient interest to make an analysis and determine its chemical constituents. Accordingly specimens of the preparation were obtained and examined.

The preparation zemacol (Norwich Pharmacal Co.), as found on the market, is a thick, pink, mucilaginous liquid, highly perfumed and having besides, a suggestion of a phenolic odor. The bottle bears a label on which appear the following statements:

"A colloidal emollient containing extract of the rete mucosum of the healthy yearling lamb, combined with glycerin, salicylic acid and other antiseptic and aromatic oils. Useful in eczema and diseases of the integument where cell destruction is a prominent factor."

In the advertising matter the following claims are made:

"An advance in animal therapy. . . ."
". . . . increases the nutritive activity of the cell tissue of the skin through the absorbable extract of the rete mucosum."
" . . . clinical tests show its efficacy in both the so-called moist and dry eczematous conditions of all parts of the cutaneous surfaces."
" . . . rich in animal cells."

Since nothing could be found in the literature regarding the therapeutic action of an extract of the rete mucosum of the sheep it was thought possible that the statements on the label were given simply as a vague and mysterious means of indicating the presence of wool-fat (lanolin), and tests were made to determine the presence or absence of the latter substance. A substance was isolated from zemacol which had the physical properties of, and responded to some of the chemical tests for, wool-fat—but it was found in such small quantities as to indicate that it was not present as an active constituent. Since there are no definite tests for the detection of serums or animal extracts the presence or absence of these could not be demonstrated. Further examination indicated the presence of salicylic acid, a gummy material, having the properties of tragacanth, and glycerin. It is practically free from inorganic matter. By distillation a small quantity of oil was isolated, which possesses the characteristic odor of the preparation.

Quantitative estimations[1] indicated the presence of the above-mentioned constituents in approximately the following quantities:

	Per Cent
Gummy matter having the properties of tragacanth	2.02
Salicylic acid	0.67
Matter having the general properties of wool-fat (lanolin)	0.20
Glycerin	5.50
Volatile matter (water and alcohol)	91.00
Aromatic oils and phenol-like bodies	Trace

The results of the above analysis, together with advertising matter regarding zemacol, were submitted to Dr. William Allen Pusey, professor of dermatology and clinical dermatol-

1. The details of analysis will be published in the annual report of the laboratory, or they may be had by sending a stamped addressed envelope.

ogy, College of Physicians and Surgeons, Chicago, and past chairman of the Section on Dermatology of the American Medical Association, with the inquiry whether or not there was any record of investigations regarding the therapeutic value of an extract of the rete mucosum of the sheep and whether in his opinion the claims made for zemacol would be warranted. The following reply was received:

> "So far as I know, nobody has ever thought of or proposed the use of an extract of rete mucosum as a therapeutic agent and if a serious suggestion of that sort had ever been made I believe I would know it. I can conceive of no service which such an extract could render and I think the suggestion of it is a highly fantastic idea. From the analysis which you furnish I should say that the mixture described is substantially the ordinary 2 per cent. solution of tragacanth in glycerin and water with a little antiseptic added to keep it from decomposing. That is a commonly known lotion, modifications of which are used in practically every hospital as a hand lotion, and has no magical virtues whatever. Incidentally, I should think it cost, aside from the labor, about twenty cents a gallon to make it."

Beecham's Pills and Other Things

In a recent letter Dr. R. A. Allen of Carbonado, Wash., asks the following questions: (1) What is the composition of Beecham's Pills? (2) What is the best excipient for tincture of cannabis indica? (3) Should the compound tincture of cinchona cause a precipitate when mixed with tincture of nux vomica? (4) Is potassium chlorate of any therapeutic value?

(1) According to "Secret Remedies," a book published by the British Medical Association and in which is given the analyses of many of the most widely advertised nostrums, an analysis of Beecham's Pills gave the following results:

The pills had an average weight of 1¼ grains, and analysis showed them to consist of aloes, ginger and soap; no other medicinal ingredient was found. The quantities were approximately as follows:

Aloes	0.5 grain
Powdered ginger	0.55 grain
Powdered soap	0.18 grain
In one pill.	

(2) While in pharmacy the term excipient is ordinarily used to designate the more or less inert substances employed to give consistency or form to pills or tablets, in this case it is probable that a method of using the tincture in a liquid mixture is what is wanted. If the intention is to prescribe cannabis indica in pill form the proper amount of the drug should be substituted for the tincture. Owing to the character of the drug the tincture is made by the use of strong alcohol. If this tincture is added to an aqueous liquid an unsightly precipitate of resinous materials forms. This precipitation is successfully overcome by employing acacia (gum arabic) as an emulsifying agent. The following prescription will give a satisfactory mixture:

R.	gm.	or	c.c.
Acacia	3		gr. xlv
Tincture of cannabis indica	10	or	fl. ʒ ii ss
Water, to make	60		fl. ʒ ii

Triturate the acacia with 20 c.c. (fl.ʒii ss) water. Gradually add the tincture of cannabis indica and then sufficient water to make 60 c.c. (fl. ʒ ii).

The quantity of tincture may be changed so long as the acacia constitutes about 5 per cent. of the entire mixture.

(3) Tincture of nux vomica is quite commonly prescribed in combination with compound tincture of cinchona. As an experiment 15 c.c. tincture of nux vomica was mixed with sufficient compound tincture of cinchona to make 120 c.c. After standing for several days only a very slight precipitation had occurred.

(4) The internal use of potassium chlorate is no longer recommended by authorities on therapeutics and it is recognized as one of the most toxic of the potassium salts, causing methemoglobinemia, depression of the nervous system and degeneration of the kidneys if given in any but moderate doses. Its use by the laity should be discouraged and if prescribed at all for internal use great caution should be observed on account of its toxic character. As a local application in stomatitis and sore throat potassium chlorate is sometimes used although it is a very feeble antiseptic. It has also been recommended in chronic dysentery and in hemorrhoids applied by injections or enemata.

Correspondence

Mexico Honors Ricketts

To the Editor:—Believing that the numerous readers of THE JOURNAL will receive with satisfaction some news about the honors granted to the late Dr. H. T. Ricketts by the Mexican Government and the principal medical institutions of this city, in attention to the very important work done by that heroic investigator who gave his life for humanity and science, I have the honor to send you this letter.

In the first place, I must tell you that the Department of Public Instruction and Fine Arts of this republic, appreciating in all its value the work of Dr. Ricketts, put at his disposal the laboratories of the Bacteriological Institution, where that eminent doctor made the very remarkable investigations well-known to the readers of THE JOURNAL.

Unfortunately for science and humanity, Dr. Ricketts, who had gained the heart of all who have known him, contracted typhus in the course of his investigations (probably by the lice contaminated with the germs of the disease) and succumbed May 3, his death producing general consternation and sorrow in this city, especially in the Department of Public Instruction and Fine Arts and in the medical corps.

The President of the Republic resolved that the following honors should be shown the memory of the heroic investigator: (1) The laboratory in which Dr. Ricketts made his investigations will be named in the future "Dr. Howard T. Ricketts Laboratory;" (2) the National School of Medicine, the bacteriologic, the medical and the pathologic institutions will be put in mourning for three days; (3) a special commission of those institutions accompanied the body to the national railway station, where it was placed in the special car to Chicago; (4) the Department of Public Instruction and Fine Arts sent a special delegate to present to Mrs. Ricketts the expression of the Mexican government's sorrow for the death of her eminent husband; (5) the same department sent a flower crown with this inscription: "To the heroic investigator Dr. H. T. Ricketts. Homage of the Department of Public Instruction and Fine Arts, Mexico, May 3, 1910." Besides this, the department sent two telegrams to the Chicago and Pennsylvania universities, presenting them its condolence in the terrible loss suffered by these institutions with the death of their distinguished professor.

Finally, the National Academy of Medicine stopped its weekly session, and the president made a public panegyric on the courageous and unfortunate Dr. Ricketts.

As you have known, Mexico, appreciating duly the importance of the work made by Dr. Ricketts, and regretting truly the great loss suffered by science and humanity, has made the best homage to the remarkable scientist who gave his life, intending to save the lives of many people.

Hoping that this news will be interesting to you and to the numerous readers of my loved JOURNAL (allow me these words), I remain

ALFONSO PRUNEDA.

The University School of Medicine

To the Editor:—The modern trend of medical education in this country is bringing the medical school into close relation with the university, from which it receives not only financial aid but, what is even more important, the inspiration of university ideals. It is to be hoped that this movement means not only the passing of the proprietary medical school but the abandonment of that conception of the medical college which makes it an institution intended solely for drilling the student in the established facts in medicine, and the substituting for it the spirit of university teaching whereby the student is led to approach these facts with the open, unbiased mind of the investigator. This is the sort of training that best prepares the student for solving the problems encountered in the routine practice of medicine.

The desirability of coming into closer contact with the university has resulted in many instances in the voting into the university as its department of medicine, a proprietary medical college, body and soul, as if the act of voting it in could

make it a real department of the university. Mr. Pritchett in his recent address before the Council on Medical Education of the American Medical Association in THE JOURNAL, April 2, 1910, p. 1109, has pointed out how in many instances the university or college in taking in the proprietary medical school has not only failed to give any financial support to its so-called medical department, but has not even made itself responsible for the standards of admission, much less extended its influence and ideals to the betterment of the medical school. The only apparent object to be gained by association of this sort is the supposed prestige to the medical school in being known as the medical department of the university and to the university in thus being able to claim a medical department.

To vote into a university a medical school organized as are the proprietary medical colleges, where neither the facilities nor the ideals are on the university basis, cannot make such a medical school a *bona fide* department of the university. It can only become an actual university department of medicine when it has been organized on exactly the same basis as any other scientific department of the university.

It is common knowledge that a great many institutions parade under the name of college which are only doing the work of a preparatory school or of a high school. In the same way the term "university" has been appropriated by institutions which are scarcely doing the grade of work recognized as the minimum standard for a *bona fide* college. A university is not distinguished from a college by the number of its students or even by the number of its departments, as is sometimes assumed. A college is essentially a teaching institution, whereas a university implies primarily an institution where, in addition to the teaching, research is fostered. Instruction is the chief aim of the college. Investigation is fundamental in the idea of the university. A *bona fide* department of a real university must therefore be a department in which the fundamental conception of a university is carried out in its organization, a department in other words in which the idea of investigation is made prominent. The medical department of a university should be a department in which the university idea is carried out. It is this ideal in medical education for which we should be working, and it is to this that the trend of modern medical education is surely leading. To recognize a school of medicine organized on the basis and with the ideals of the proprietary medical school as the medical department of a university not only hurts the reputation of the university but such a recognition is an aspersion on the ideals of the medical profession. To quote from the address of President Schurman delivered before the Council of Medical Education of the American Medical Association, which appeared in THE JOURNAL, April 16, 1910, p. 1281: "Have done with this sham in medical education, . . . let this new institution be not an attachment (or detachment) to the university, but an organic and vital member like other departments of the university, and like them, animated by its spirit and controlled by its standards."

GEORGE E. SHAMBAUGH, Chicago.

Reducing Infant Mortality in Large Cities

To the Editor:—In connection with an interesting paper which appeared in THE JOURNAL, April 16, by Dr. H. Schwarz, on "A Plan by which Infant Mortality Can Be Reduced in Large Cities," I should like to state that the following up of infants born in a maternity service is also being done in some other institutions in this country. In the *Archives of Pediatrics*, July, 1907, I wrote: "Maternity hospitals could do much by giving mothers detailed instruction in the care and feeding of infants; and to those mothers who cannot give the breast, demonstrations in the preparation of the food could be given during the last two or three days of their stay at the hospital. By explaining to them the great importance and value of regular supervision a certain number could be induced to report regularly at stated intervals during the first year in order to have the infant weighed and to receive instruction in care and feeding."

This method was inaugurated by Budin at the Paris Maternity Hospital many years ago. For over a year I have carried it out in the maternity service of the Lebanon Hospital, and have no doubt that it is being done in other institutions in this country. It will probably be a long time before it will be possible to establish 50 such clinics at an annual expenditure of $150,000, as Dr. Schwarz suggests. At present all that such a clinic can do is to demonstrate the fact that in a certain series of cases the infant mortality can be considerably diminished. Others may then be induced to carry out the work on a larger scale.

This method does not touch the 50,000 or more babies annually born in New York City in the service of midwives. In this class the mortality is very high. These can only be reached by a plan which I proposed in the paper above cited, and again discussed in a paper in *Pediatrics*, August, 1909. A nurse attached to the department of health visits the mother as soon as the birth certificate is received by the department from the midwife. This is now being done in this city. The plan has the great advantage that there is no interference with regular practitioners of medicine; its greatest value lies in the fact that the vast majority of infants can be kept at the breast.

In this way I believe it is possible to reduce the infant mortality in New York City by at least 5 per cent. in this class of patients, which would mean a saving of more than 2,500 lives annually. CHARLES HERRMAN, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

QUININ AND UREA AS LOCAL ANESTHETICS

To the Editor:—Please give me information and literature in regard to the chemistry and history of the use of quinin and quinin and urea hydrochlorid as local anesthetics. C. B.

To the Editor:—I have been particularly interested in the results of the combination of quinin and urea hydrochlorid with the prolonged exemption from pain, especially in neuritis, which recently has been more often recognized than formerly. Not only am I interested in the combination of these two drugs, but my investigation has lead me to inquire which produces the salutary results. While I do not wish to detract from the credit due the physician first suggesting this addition to our surgical resources, I wish to say that I have been using quinin alone for more than fifteen years as a local anesthetic. I am not the originator of this method of using quinin, as more than seven years prior to my adoption of it for this purpose, Dr. William Sylvester, an old and able army surgeon of Ohio, and a resident of this city, had been using it for a number of years and first taught me its use in pleurisy (neuritis), pneumonia and advanced tuberculosis cases.

I feel safe in saying that Dr. Sylvester was beyond doubt the originator of the idea. He did not to my personal knowledge use this drug hypodermically. His results with quinin on a denuded surface were so pleasingly satisfactory that up to the day of his death he used this method of treatment for the alleviation of pain and the production of anesthesia. W. S. HOY, Wellston, Ohio.

ANSWER.—Quinin and urea hydrochlorid is a double salt of quinin and urea made by dissolving quinin hydrochlorid in hydrochloric acid, adding pure urea, filtering the mixture through glass wool and allowing it to crystallize. It is soluble in its own weight of water and in alcohol. It has the actions of quinin, is nonirritating when injected hypodermically, and produces local anesthesia, lasting in some instances several days, depending on the strength of the solution.

Dr. Hoy asserts that he has used quinin for fifteen years by external application on denuded surfaces (not hypodermically), and believes that Dr. Sylvester, of Ohio, from whom he obtained the suggestion, is entitled to credit for priority.

Helmholtz used it unsuccessfully in watery solution as a spray in hay fever. Fulton (THE JOURNAL, July 30, 1904, p. 1393) attributed this failure to the fact that watery solutions are transient in their effect in relieving the coryza and the other symptoms, and he therefore followed the spray with an ointment of quinin in white petrolatum, 30 grains to the ounce. This, he asserted, gave continued relief from the symptoms while it was employed. Thibault (*Jour. Ark. Med. Soc.*, September, 1907; abstr. in THE JOURNAL, Nov. 16, 1907, p. 1719) also reports its efficiency for anesthesia when used locally on cotton or gauze on mucous membranes or denuded surfaces in strength of 15 or 20 per cent. In a case of strangulated hernia in an aged woman, reported later (THE JOURNAL, April 23, 1910, p. 1375), he used the infiltration anesthesia in 0.25 per cent. solution. On manipulating

the viscera and peritoneum pain was caused. Some of the same solution was poured on these structures and the operation completed without pain. He suggests that it might be used in more extensive abdominal operations, involving manipulation of the viscera and peritoneum.

Quinin has been used hypodermically for a number of years in the treatment of malaria, but its hypodermic use as a local anesthetic is more recent. In the communication mentioned above H. Thibault reported on its hypodermic use both experimentally on himself and practically in the amputation of a finger, in the removal of a large fatty tumor and in the divulsion of the sphincter ani for the removal of a foreign body. He first used quinin and urea hydrochlorid, but stated that any of the salts of quinin could be used for this purpose, in 1 to 2 per cent. solution, which might be boiled any number of times without destroying its efficiency. He said: "It is safe, and the anesthesia lasts from one to six hours." In August, 1908, E. J. Brown (THE JOURNAL, Aug. 8, 1908, p. 496) reported the use of 3 per cent. solution by hypodermic injection in the removal of the tonsils, giving perfect anesthesia for a prolonged period after the operation and limiting the bleeding during the operation. Dr. V. M. Griswold, of Fredonia, N. Y., then called attention (THE JOURNAL, Aug. 22, 1908) to the fact that he reported on the hypodermic use of quinin as an efficient local anesthetic and much safer than cocain, in July, 1896 before the Chautauqua County (New York) Medical Society (*Buffalo Med. Jour.*, August, 1896, p. 32). Dr. Griswold claims that his use of quinin as a local anesthetic was the result of experiments with various substances in the endeavor to find one equally efficient, but less dangerous than cocain.

Dr. John A. Wyeth (*New York Policlinic Journal*, January, 1908) reports on the use of quinin and urea for this purpose in an article entitled "A New Local Anesthetic of Great Value." On account of two cases of severe sloughing after deep infiltration Wyeth has abandoned its use, and is now trying a different formula which he will report on later.

The first attempt to explain the anesthetic effect of the solution is found in a paper by E. F. McCampbell (THE JOURNAL, March 16, 1907, p. 919), who found that quinin hydrochlorid had the power of causing temporary paralysis in experimental animals, which he believed to be due to its coagulating action on the protoplasm of the peripheral nerves. He found that atrophy of the extremities resulted after large doses.

Hertzler, Brewster and Rogers (THE JOURNAL, Oct. 23, 1909, p. 1393) confirmed Thibault's statements, but found that in hernia operations healing of the external wound was somewhat delayed on account of the thickening of its edges, which proved to be due to an excessive fibrinous exudate produced by the 1 per cent. solution. When 0.25 per cent. instead of 1 per cent. solutions were used the fibrinous exudate was reduced and healing was not perceptibly delayed. Solutions of the 0.25 per cent. strength produced perfect though less prompt and lasting anesthesia. Hertzler, Brewster and Rogers agreed with Thibault that a 10 or 20 per cent. solution should be used externally or on mucous membranes, and with Brown that in tonsillectomy a 3 per cent. solution is best. They recommend this form of anesthesia especially in operations about the anus, as in hemorrhoids and fistulas, in which prolonged anesthesia from seven to ten days is particularly desirable. They have found that it is preferable to dissolve the quinin and urea hydrochlorid in sterile water instead of salt solution; the former gives a more lasting anesthesia, and the latter has no advantage. They recommend it as being harmless in almost any amount. There are, however, many reports of untoward effects from the hypodermic use of quinin in malaria and other affections in which it has been used. But in the weak solutions of 0.25 to 1 or even 3 per cent. recommended, unpleasant effects are unlikely to occur, unless there is an idiosyncrasy to quinin in any amount. Quinin and urea hydrochlorid, therefore, seems to be a valuable addition to the list of local anesthetics, on account of its cheapness, its simplicity of preparation and use, its safety, its hemostatic effect and the prolonged anesthesia produced.

Chondroendothelioma or Mixed Tumor of the Submaxillary Gland.—Martland (*Proceedings New York Pathological Society*) removed at autopsy a mass, which included the tongue, larynx and trachea, from a man aged 37 who had died of pulmonary tuberculosis. At the age of 22 the patient had noticed a small lump in the neck which grew for two years and then for thirteen years remained quiescent. It never had caused pain or discomfort. A diagnosis of calcified tuberculous glands had been made. At the right of the median line there was an oval, more or less nodular firm tumor, which was encapsulated and which on section had a spongy appearance, was not vascular and was light gray in color throughout. A diagnosis of perithelioma of the carotid was made, but on further study by the society it was corrected to the above diagnosis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 7, 1910:

Hansell, H. S., capt., April 29, leave of absence extended until such time as it will be necessary for him to start under his orders to take transport to sail for the Philippine Islands, June 6, 1910.

Miller, Reuben B., capt., April 30, relieved from duty at Ft. Meade, S. D., and ordered to Army and Navy General Hospital, Hot Springs, Arkansas, for duty.

Pinkston, O. W., capt., April 30, relieved from duty at Army and Navy General Hospital, Hot Springs, Arkansas, and ordered to Ft. Meade, S. D., for duty.

Jenkins, F. C., 1st lieut., M. R. C., April 30, on expiration of his official leave of absence will proceed to Ft. Leavenworth, Kansas, for duty at that station.

Pinquard, Joseph, 1st. lieut., M. R. C., April 30, relieved from duty at Ft. Leavenworth, Kansas, and ordered to Ft. Moultrie, S. C., for duty at that station.

Delacroix, A. C., 1st. lieut., M. R. C. April 30, upon arrival at San Francisco, will proceed to Boise Barracks, Idaho, for duty at that station.

Smith, Lloyd L., captain, April 30, granted four months leave of absence.

Rhoads, Thomas L., major, May 2, left Walter Reed General Hospital, Takoma Park, D. C., on ten days leave of absence.

Mason, George L., dental surgeon, left station on May 2 on 10 days leave of absence.

La Garde, Louis A., colonel, May 2, ordered to proceed to St. Louis, for the purpose of reading a paper on "Gunshot Wounds in Recent Wars," before the Section on Surgery of the American Medical Association, June 7-10, 1910.

Craig, Charles F., captain, May 2, detailed to represent the Medical Department of the Army at the seventh annual meeting of the American Society of Tropical Medicine to be held at St. Louis, June 11, 1910.

Howard, Deane C., major, May 2, ordered to proceed to Columbus Barracks, Ohio, for temporary duty, and on completion thereof will proceed not later than May 2, 1910, to Jefferson Barracks, Missouri, as heretofore ordered.

Scott, Minot E., dental surgeon, April 21, ordered to proceed to several posts in the Department of the Columbia, for temporary duty.

Taylor, Blair D., colonel, April 26, detailed as chief surgeon, for the Camp of Instruction to be held at Chickamauga Park, Georgia, in July, 1910.

Medical Corps, U. S. Navy

Changes for the week ending May 7, 1910:

Turner, W. B., asst.-surgeon, ordered to duty at the Naval Hospital, Yokohama, Japan.

Downey, J. O., asst.-surgeon, ordered to duty at the Naval Hospital, Norfolk, Va.

Jacoby, A. L., acting asst.-surgeon, appointed acting asst.-surgeon from April 27, 1910.

Angeny, G. L., surgeon, detached from the *Indiana* and ordered to continue other duties.

Langhorne, C. D., surgeon, ordered to duty at the Naval Hospital Naval Home, Philadelphia.

Valz, E. V., P. A. surgeon commissioned P. A. surgeon from March 5, 1910.

Ledbetter, R. E., surgeon, detached from the *Relief* and ordered to continue other duties.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended May 4, 1910:

Pettus, W. J., asst.-surgeon general, directed to proceed to Galveston, El Paso, Texas, and Fort Stanton, N. M., on special temporary duty.

Austin, H. W., surgeon, directed to proceed to Boston on special temporary duty.

Brooks, S. C., surgeon, and McCoy, George W., P. A. surgeon, detailed to attend the meeting of the Southern California Medical Society at Redlands, Cal., May 4, 1910.

Nydegger, J. A., surgeon, granted 5 days' leave of absence from May 2, 1910.

Francis, Edward, P. A. surgeon, detailed to represent the Service at the meeting of the International Association of Medical Museums, to be held in Washington, D. C., May 3-4, 1910.

Kolb, L., asst.-surgeon, granted 1 day's leave of absence in April, 1910, under paragraph 191, Service Regulations.

Stiles, C. W., professor, Hygienic Laboratory, detailed to represent the Service at the annual meeting of the Texas State Medical Association, to be held in Dallas, May 10-12, 1910.

Bailey, C. A., acting asst.-surgeon, granted 3 days' leave of absence from April 28, 1910.

Diaz, Jose A., acting asst.-surgeon, granted 30 days' leave of absence from Feb. 4, 1910, and leave, without pay, to include May 14, 1910.

Deerhake, W. A., acting asst.-surgeon, granted 7 days' leave of absence in April, 1910, under paragraph 210, Service Regulations.

Goldsborough, B. W., acting asst.-surgeon, granted 3 days' leave of absence, without pay, from April 26, 1910.

Gustetter, A. L., acting asst.-surgeon, granted 4 days' leave of absence from April 25, 1910.

Hollman, H. T., acting asst.-surgeon, granted 4 days' leave of absence from April 2, 1910, under paragraph 210, Service Regulations.

Stewart, W. J. S., acting asst.-surgeon, granted 30 days' leave of absence, without pay, from April 23, 1910.

Watson, H. J., acting asst.-surgeon, granted 19 days' leave of absence from May 30, 1910.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, St. Louis, June 7-10.

American Academy of Medicine, St. Louis, June 4-6.
American Assn. of Medical Milk Commissions, St. Louis, June 6.
American Association of Medical Examiners, St. Louis, June 5-6.
American Gastro-Enterological Association, St. Louis, June 6-7.
American Proctologic Society, St. Louis, June 6.
American Society of Tropical Medicine, St. Louis, June 11.
American Urological Society, St. Louis, June 6-7.
Assn. of Amer. Teachers of Diseases of Children, St. Louis, June 6.
Connecticut State Medical Society, New Haven, May 25-26.
Illinois State Medical Society, Danville, May 17-19.
Iowa State Medical Society, Des Moines, May 18-20.
Maine Medical Association, Bar Harbor, June 29-30.
Massachusetts Medical Society, Boston, June 7-8.
Nat. Con. State Med. Exam. and Licensing Bds., St. Louis, June 6.
New Jersey Medical Society, Atlantic City, June 28-30.
North Carolina, Med. Soc. of State of, Wrightsville Beach, June 21.
Rhode Island Medical Society, Providence, May 31.
Wisconsin, State Medical Soc. of, Milwaukee, June 22-24.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-fifth Annual Meeting, held in Washington, D. C., May 3-5, 1910

The President, DR. EDWARD P. DAVIS, Philadelphia, in the Chair

An address of welcome was delivered by Dr. I. S. Stone, Washington, D. C., which was responded to by Dr. Seth C. Gordon, Portland, Me.

Bilateral Tubal Pregnancy; Coincident Development

DR. PALMER FINDLEY, Omaha: Review of the literature on the simultaneous development of a fetus in either tube revealed 28 cases reported as examples of bilateral tubal pregnancy, but only 8 are unquestioned as being of simultaneous development. Of 20 cases of doubtful identity, the clinical diagnosis was not supported by the macroscopic and microscopic findings of fetal structure in the 2 tubes. To these 8 cases I add a ninth in which there was a probable simultaneous development of a fetus in each tube, with rupture of the right tube and the escape of the ovum through the fimbriated end of the left tube. The escape of the 2 ova was probably simultaneous. The pelvis was full of blood and there was a general peritonitis. Decidual tissue and chorionic villi were found in both tubes, but neither fetus was discernible. Both ovaries were cystic and adherent. In the right ovary was a fresh corpus luteum. An abdominal section was peformed with the removal of both tubes and escaped blood. The abdomen was drained. Death ensued from general peritonitis.

Reimplantation of Kidney

DR. DOUGAL BISSELL, New York, reported a case of successful reimplantation of a pelvic kidney in the female, and made some remarks on the surgical treatment of kidney misplacements in the true pelvis.

The Chief Cause and Prevention of Postoperative Cystitis

DR. JOSEPH TABER JOHNSON, Washington, D. C.: I desire to emphasize the necessity for more strict prophylaxis and, when cystitis is diagnosed, a more active and continuous treatment, not only to bring about an early cure, but to prevent the transition from an acute to a chronic condition. Cystitis occurs in woman more frequently after abdominal than other operations. When patients are catheterized several times daily for a week or even longer, the conditions are present which easily result in the production of a cystitis unless great care is practiced to prevent trauma or infection.

DISCUSSION

DR. HENRY T. BYFORD, Chicago: At the Woman's Hospital, Chicago, in the earlier days, women were catheterized before all operations because of the fear of a distended bladder. As the result cystitis developed occasionally. This practice was stopped. I do not know whether it is the general custom or not among practitioners, but I induce my patients to pass urine before operation, and there are few patients who cannot do this. By so doing, the dangef of cystitis from the use of the catheter is eliminated. Some nurses in using the catheter allow the labia minora to drop over the urethra, in this way germs are deposited on the end of the urethra and are carried in with the catheter. The nurse should irrigate the urethra so that it is clean, and great care should be taken to prevent anything from being carried into the urethra with the catheter.

DR. C. C. FREDERICK, Buffalo: In order to prevent chronic cystitis, chronic trigonitis, it is necessary to abstain from catheterization, if possible, but if catheterization is resorted to, it should be done under the most favorable conditions, and every precaution taken to prevent infection of the bladder.

DR. PHILANDER A. HARRIS, Paterson, N. J.: In taking the history one should be exceedingly careful to have a record of patients as to whether they have pain in urinating or a history of cystitis prior to operation. An important point is to require every patient admitted to the hospital for operation to urinate in the dorsal position.

DR. FREDERICK J. TAUSSIG: If we can get patients to void urine spontaneously, we will eliminate very largely postoperative cystitis. A few cases of so-called spontaneous infection, or infection from surrounding infected tissues have been reported, but they are questionable.

DR. EDWARD REYNOLDS, Boston: Infection of the bladder comes not so much from the introduction of the point of the catheter into the urethra as from the fact that in the subsequent passage of the instrument the nurse allows the labia to fall against the catheter and material is carried in in that way.

DR. J. M. BALDY, Philadelphia: If nurses are taught how to use the catheter properly, and do not allow the labia to come together from the time they have disinfected the parts, the danger of cystitis would be materially reduced.

(To be continued)

FLORIDA MEDICAL ASSOCIATION

Thirty-seventh Annual Session, held at Jacksonville, April 6-8, 1910

The President, DR. H. E. PALMER, of Tallahassee, presiding

President's Address: The Duties of the Profession to the Association and the Public

DR. H. E. PALMER, Tallahassee, reviewed the history and early difficulties of the Association, enjoined an earnest effort on the part of each member to increase the membership, commended the work of the State Board of Health in its laboratory and field divisions, especially in its campaign against hookworm disease, a careful education of the public to combating fallacies widely entertained concerning vivisection and vaccination, the regulation of the practice of medicine and a deeper interest in public affairs of the state.

Election of Officers

Officers for the year 1910 were elected as follows: President, Dr. J. D. Love, of Jacksonville; first vice-president, Dr. A. H. Freeman, of Starke; second vice-president, Dr. L. A. Peck, of Melbourne; third vice-president, Dr. F. C. Moor, of Tallahassee; councilor first district, Dr. J. H. Pierpont, of Pensacola; councilor second district, Dr. H. E. Palmer, of Tallahassee; councilor third district, Dr. L. M. Anderson, of Lake City; librarian, Dr. C. E. Terry, of Jacksonville.

Chairman of committees for 1910: Legislation and public policy, Dr. H. E. Palmer, Tallahassee; publication, Dr. J. D. Fernandez, Jacksonville; scientific work, Dr. G. R. Holden, Jacksonville; education, Dr. J. H. Hodges, Gainesville; arrangements, Dr. F. C. Moor, Tallahassee.

Tallahassee was selected as the place of meeting in 1911.

A special committee was appointed, with Dr. Graham E. Henson of Crescent City, chairman, to conduct an active campaign for the control and prevention of malaria in Florida, as suggested in a paper read on this subject by Dr. Hanson.

Dr. R. P. Daniel of Jacksonville, the only member remaining alive of those who organized, in 1853, the Duval County Medical Society, and of those who, in 1874, organized the Florida Medical Association, delivered an address of welcome on behalf of the Duval County Medical Society, in which he gave an interesting account of the organization and history of the two bodies.

The report of Dr. J. H. Pierpont, delegate to the A. M. A. in 1909, urged the importance of every member becoming a

member of the A. M. A. and supporting its efforts to solve the problems coming before it and endorsing the work of the national body in its various activities for the elevation of the profession and the science of medicine.

Oration on Pasteur

DR. HIRAM BYRD, Jacksonville, orator, selected as his subject, "An Appreciation of Louis Pasteur." The address dwelt in detail on the interesting and valuable work of Pasteur in chemistry, mollecular physics, fermentation and serotherapy.

A Case of Uncinariasis with Post-mortem

DR. WILLIAM E. ROSS, Jacksonville, reported a case of uncinariasis with autopsy report by Dr. H. Hanson:

There was no albuminuria nor were there casts in the urine; nor had there been for two weeks. The child had previously been treated for hookworm. I began the treatment on betanaphthol without noting acute Bright's disease; later, when I changed to thymol the acute nephritis appeared. I think that death was due to the toxins of the disease and not to the thymol as eight grains was the largest dose given at one time; two such doses were given in one day.

I have under treatment now a brother of the patient cited in my paper. Hemoglobin is 15 per cent. He has had thymol three or four times, and on January 25 I began with betanaphthol, discarding the thymol in this case. The hookworm eggs are still present.

DISCUSSION

DR. F. C. MOOR, Tallahassee: I have seen a great many cases of hookworm disease and have frequently obtained specimens for examination. In one case the eggs were found and three successive treatments, ten days apart, with betanaphthol, were given; the examination after the third course showed no eggs. But that was the only case in which I have successfully used betanaphthol.

DR. A. H. FREEMAN, Starke: There are several interesting points about Dr. Ross' case. Those of you who were present at Tampa in 1907 will recall that I reported some twelve cases that had been treated with thymol and some others with betanaphthol. My records show that I used the microscope in the diagnosis of the disease, and after the several treatments I always examined for the eggs to determine just how many courses of the several medicines were required in the cases to rid the patients of the parasites. You will recall that in these cases treated with thymol ten weeks was required, one treatment each week. The point occurs to me that the one case reported by Dr. Ross, if there were no others like it, refutes the statement made lately in public that 25 cents' worth of thymol would cure any case of hookworms. That is a great mistake. I recall the state health officer telling me three years ago of the work done by Dr. Bailey K. Ashford in Porto Rico, and that he had discarded betanaphthol from his list of treatments for hookworms for the reason that the continued use of betanaphthol was injurious to the kidneys. I saw no bad effects, however, from either of the drugs. One thing is sure: hookworm disease is not so easily cured, and this is proven by Dr. Ross' case and by cases in which I have used the microscope and repeatedly found the eggs.

DR. E. P. WEBB, Ponce de Leon: My experience with thymol has been entirely successful and I have had no occasion to use anything else. There have been several cases in my practice with remarkable results. In one a specimen was sent to the State Board of Health laboratory for examination; the report stated that hookworm eggs were not found, but that the ova of the tapeworm were present. The patient was a boy, hemoglobin 15 per cent. In another case thymol brought not only the hookworms, but also two dozen worms twelve inches or more in length. Of course, in the case of the tapeworm thymol was not given. The State Board of Health in this way finds sometimes more than one parasite present.

DR. E. E. LINDEMAN, Tampa, recommended that thymol be administered in cachets triturated with equal parts of milk and sugar; before using, the cachets should be well softened in water.

DR. E. P. WEBB: I would like to know more about the toxic effects of thymol. I have given perhaps more than a hundred doses and have never observed any weakness from it. If the thymol will cause nephritis we ought to know it.

DR. ROSS: It seems to me that is no theory. Thymol is the treatment the State Board of Health gives and recommends, and this boy has been treated by a member of the staff. He came to the hospital with acute nephritis. He was there six weeks. After I got rid of the nephritis I started him on betanaphthol. After two weeks he was cleared of albumin and casts and I gave two doses of thymol, eight grains each, one at 6 a. m. and one at 7. He had no oil for three days, but was given salts before thymol was given, and I think twenty-four hours after the thymol, with practically no toxic effects and no change of pulse, but had albumin and casts at the end of the third day. In about four weeks it had apparently cleared up. I did not feel justified in giving any more thymol after the toxic effects noted. I then gave betanaphthol until the end came. I would not in the routine cases expect this effect on the kidneys, however.

DR. W. P. ADAMSON, Tampa: The question appears to me to resolve itself into one which considers the means of administering thymol and getting it into and through the intestinal tract without its being absorbed. Only in so doing, I think, can we feel authorized in proceeding, and I think we can further conclude that when we get the toxic effect there has been some degree of absorption, and it should be the next step to inquire whether or not, on account of some abnormality in the intestinal tract, something has not remained in the nature of oil for several days which possibly might account for the absorption of the thymol.

In regard to the conclusion that the hookworm enters first through the mouth and second through the hair follicles, I would like to mention a case which to me appeared to be a little unusual and a little irregular. A man, aged 48, came to me with a history of having been sick three years. He had been strong and robust. While fishing he fell into the water, sustaining a fracture of one of his lower limbs. He got along very well after a month, but almost immediately after falling into the water he began to complain of very distressing burning of one leg, which began in the foot and the leg and in the course of a few days extended up to the waist line on one side. This was controlled after a few days' treatment with iodin. He got along very well until about five weeks later, when he began to suffer from an extreme type of diarrhea. This continued in spite of treatment for eight months. In the meantime he had grown exceedingly anemic. This occurred when he was living in Southern Alabama and his physicians did not suspect hookworm disease. The man came to Florida and consulted me. He was in an emaciated condition, hemoglobin 20 per cent., constipated—symptoms of advanced anemia. After an examination I gave him 60 grains of thymol, securing only 20 or 30 worms. I waited a week and gave him 90 grains thymol, with better results. After a week I gave 90 grains more, and after another week I repeated the same dose. At the end of about six weeks he was practically well. He regained his strength and vitality. The point to be impressed is in connection with the infection: It appeared to me to be an acute infection of hookworms. From the time of his injury and to the date of infection, which probably took place when he fell into the water, and up until the date of the diarrhea, was probably sufficient time to allow the parasites to find their way into the intestinal tract with the consequent extreme diarrhea and anemia. I would like to know whether other physicians have observed patients suffering from hookworms with a similar sudden onset.

DR. E. W. WARREN, Palatka: I had an experience last summer which showed the frequency with which hookworm anemia and malaria are complicated. From June to September, 1909, in Palatka, we had a marked epidemic of malarial fever. Many of the cases became chronic, continuing throughout the summer and into the fall. Many yielded to malarial treatment, but a certain percentage of patients every week or two had chills. They could not work and their earning capacity was seriously affected. Finally, in November, one man who I suppose had suffered more than anyone else in my experience there, came to my office. He was very anemic, had had a chill that day, and it occurred to me that he might have hookworms. I secured a specimen of his feces and found it full of the ova. I immediately began to

give him thymol, sixty grains once a week. I also gave him malarial treatment. He never had another chill after the first dose of thymol, which was administered the next morning after he called. He at once went to work and has not lost another day since that time. That was a new idea. Every chronic case of malarial fever which came into my office was examined for hookworms, and in practically every one I found the ova, and in every case as soon as I administered thymol the chills ceased. Of course, anti-malarial treatment was given too. In the case which Dr. Ross has reported an examination for malarial complication has impressed itself upon me as being a wise procedure.

(*To be continued*)

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Oxford, April 12, 1910
(Concluded from page 1569)

The Benefit to the Public Health by Report of all Specific Contagious Diseases to the State Board of Health

DR. G. C. PHILLIPS, Lexington: The government is spending large sums of money to teach improved systems of farming, improving waterways and other things, and it is of equal importance for it to look after the health of the people. With all other improvements, there can be no happiness without health. Each citizen cannot make laws for his own benefit and enforce them on his neighbor, no matter how negligent his neighbor may be about such things. Therefore, it is necessary that the government should make laws for all the people and have officers to enforce them. Yellow fever in Havana and the bubonic plague in San Francisco showed the inability of physicians to stamp out these diseases unaided by the United States Government. I advocate a department of health and a minister of health in the cabinet.

Our State Board of Health should have more money and authority to stamp out preventable diseases and to teach the people hygiene. A monthly report on vital statistics and prevailing diseases of the state should be issued by the secretary of the State Board of Health to show true conditions; if this were done it would encourage emigration, induce capital to come here and lower rates of life insurance. Outside people know these things only through newspapers. No official report can be obtained except from physicians all over the state. Each physician should report births, deaths and all preventable diseases in his practice—and be fined if he does not—on first of each week or month, to the county health officer and not to the secretary of the State Board of Health, and the county health officer should report to the secretary of the State Board of Health. The secretary of the state board should compile these reports and send them to the Marine-Hospital Service. If these rules were carried out the good accomplished in the preservation of lives and the time and money spent for sickness, would far exceed the cost of stamping out preventable diseases.

Prophylaxis of Venereal Disease

DR. J. W. YOUNG, Grenada, entered a plea for simple living and training in morals and modesty as a means of safeguarding the health of future wives and mothers.

DR. H. C. BUCK, Friar's Point, argued for education as the only true prophylaxis of venereal diseases.

DISCUSSION

DR. M. J. ALEXANDER, Tunica: Education has not been very successful along this line; young people do not appreciate the seriousness of venereal diseases. Gonorrhea is deemed by many men and women to be no worse than a cold. Even syphilis is not considered seriously by young men—they treat it as nothing. These youths suppose that their family physician can cure them in a few days when they are afflicted with gonorrhea, and that Hot Springs will cure them of syphilis. What can we do to relieve the situation? We speak of medical legislation; I think the effort in this direction should be made toward venereal diseases. If we would force health officers to publish the name of the disease and the names of those afflicted and put flags on the houses of those afflicted, in ten years there would be a big change.

DR. H. L. SUTHERLAND, Rosedale: This is a very difficult matter to get at with boys in a practical way without doing more harm than good. Many people have come to me asking that I speak to their boys on subjects of this nature, but I do not know how to do it without doing a great deal of harm. For several years past I have been giving literature to the boy instead. Whenever I want any literature on the prevention of venereal disease I write to the Indiana State Board of Health. Among these tracts that I have so obtained there is one that I am especially interested in. The title of the pamphlet, as I remember, is "Sexual Hygiene versus The Social Plagues." It is a splendid pamphlet on the subject and any boy can understand it. That is my way of educating the boy. The legislature of Mississippi ought to provide for literature of that sort intended for the people and not for physicians.

DR. H. C. BUCK, Friar's Point: I do not agree entirely with Dr. Sutherland in regard to not saying anything to boys; they must be reached in some manner; they are willing to learn and to follow advice. The seriousness of the matter must be impressed on them; they can be taught modesty; they should be taught the whole subject. It can be done.

The Nervous Manifestations of Pellagra

DR. H. BOSWELL, Laurel, emphasized the importance of a study of the nervous manifestations in this disease as the only means of making an early diagnosis. Only patients in the late stages are seen in the hospitals but the man in practice who keeps his eyes open can often do much towards preventing the severe, late symptoms.

DISCUSSION

DR. J. M. BUCHANAN, Meridian: I have seen cases in which there was practically nothing that pointed to pellagra except the nervous mental manifestations. We are told by the London school that we can make a diagnosis of pellagra without regard to the skin manifestations. That may probably be done by people who have been in contact with the disease longer than we have. The nervous manifestations result largely from the fact that the spinal cord is more or less involved. Different parts of the cord may be involved and the nervous manifestations would therefore show in different parts. We cannot say that there are any particular mental manifestations peculiar to pellagra. The most common, I would say, is depression—a form of melancholy in which the patients sit with heads bowed and take no interest in anything around them. It is more than probable that the physicians practicing throughout the state see more of the first stages of the disease than those who are in the hospitals because the physician usually treats the patient at home as long as he can before sending him to the hospital for treatment.

DR. G. W. STEPHENS, Meridian: I have noticed the depression spoken of by Dr. Buchanan; in the later stages of the disease it is remarkably manifested. In one case, however, a woman died of the disease in a very happy state of mind. One of my first cases was a man whose skin was marked, a pronounced case. To-day he is cured.

The Uterus: A Knowledge of its Anatomy and Physiology Essential to Successful Gynecologic Effort

DR. T. M. JONES, Hernando, emphasized the necessity of a thorough knowledge of the anatomy and physiology of the uterus as a *sine qua non* to the would-be gynecologist and described in detail those points of most importance.

The Physician's Duty in Prophylactic Gynecology

DR. S. E. EASON, New Albany, laid stress on the importance of the obstetrician doing his full duty in the way of preventing sepsis and lacerations and the necessity for prompt repair of the latter. He also paid his respects to the physician who turns loose the uncured male gonorrheic to commit matrimony and increase the practice of the gynecologist.

Obstacles in the Surgical Treatment of Gynecologic Patients

DR. H. N. PAGE, University, discussed the dissatisfaction with the results of gyencologic operations prevalent throughout the country. The physican and the surgeon both share the responsibility. Many of the conditions that call for surgery are of a chronic type—these cannot be cured all in a moment, other tissues than those cut are apt to be involved and it may take time to cure them. Preparatory and after-treatment are both too often neglected. Bad sexual hygiene, after operation, is responsible for much trouble. Operations are frequently delayed too long. The operator may be lacking in surgical judgment, which is one of the rarest qualities in a surgeon. The surgeon and the physician should consult frequently during the after-care of the patient.

DISCUSSION

DR. J. A. CRISLER, Memphis: Dr. Page's paper goes to the bottom of the matter in calling attention to the fact that there should be a strong bond of union between the physician and the gynecologist in the treatment of these cases. Surgery is sometimes credited with things it cannot do. The curette is a most dangerous instrument. I have seen many bad results arising from its use. There is a great difference between the surgeon and the operator. Surgical judgment is a thing that must be cultivated.

SYMPOSIUM ON MICROSCOPY

Use of the Microscope by the General Practitioner

DR. J. G. GAITHER, Oxford, contended that the microscope is as essential for daily work as the stethoscope or the thermometer. He considered some diseases and methods of examination for their correct diagnosis.

DR. J. M. FURR, Aberdeen, described the blood picture in several conditions encountered in general practice.

DR. T. M. JONES, Hernando, discussed various theories of life and the dangers into which we may be led by following these so far that we may forget our Creator.

Discussion on Microscopy in General Practice

DR. G. W. STEPHENS, Meridian: I believe that the majority of general practitioners lack the time necessary for this work. The microscopy of blood would take too much time for the general practitioner.

DR. E. L. GREEN, Carpenter: These examinations take too much time from the general practitioner, and it is better to send the specimens to specialists. On the other hand, it is a very good thing for the physican who has time to do such work.

DR. B. H. DURLEY, Aberdeen: I do not find that it takes much time to do the work, and in any event time should not be considered. Every physican should use the microscope. If the physician does not know how to use it he should take a course in microscopy and learn how.

DR. E. L. ROBERTSON, Sunflower: The physician should take time. It takes only a few minutes to make an ordinary microscopic examination.

DR. J. G. GAITHER, Oxford: I am a country doctor and do not claim to do the work of a specialist. I leave special work to the specialist, but I can make a slide of any case mentioned in my paper, except for hookworm infection, in from 5 to 12 minutes. Those slides can be examined at leisure. If I am in doubt, as I frequently am, I call on a specialist to help me out.

Vital Statistics

DR. J. W. GRAY, Clarksdale, gave some reasons for keeping vital statistics accurately. In any court in Mississippi it would be far easier to make legal proof of the birth and death of Farmer Smith's well-bred jackass than of the birth and death of our illustrious and beloved Lamar. Under our present laws the pure blood of a registered bull can be more readily proved than a man's legitimacy.

DR. E. L. GREEN, Carpenter, considered the relation of vital statistics to sanitary measures.

DR. C. L. WILBUR, of the U. S. Bureau of the Census, Washington, D. C., told of work done along these lines in other states and described the methods that have given best results.

DISCUSSION

DR. H. L. SUTHERLAND, Rosedale: I have applied to some of the large and pretentious cities of the state, but they were unable to supply statistics of this nature. The health officer should require such data. I have found that these statistics had much to do with immigration. It is to be regretted that the vital statistics bill failed to pass in the legislature, but we can do a great deal of educational work along these lines and when the legislature meets again we ought to get a satisfactory bill of this sort passed. If we keep up an educational campaign of this nature we will eventually convince people of the importance of the measure.

DR. J. J. HARALSON, Forest, by way of discussion, read the following resolution:

Resolved, That the achievement of the registration of all deaths, with their causes, immediately after their occurrence, and the prompt return of certificates of death from local registrars directly to the central bureau of vital statistics which shall constitute a part of the organization of the State Board of Health, thereby giving the sanitary authorities of the state timely information of the exact prevalence and distribution of disease, is the most important of all sanitary measures and should be unremittingly urged until successfully carried out in this state.

The State's Care of the Tuberculous Poor

DR. J. R. TACKETT, Meridian, urged the importance of the state providing for the care of indigent consumptives. Mississippi is generous to her established eleemosynary institutions and an effort should be made in this direction also.

Uncinariasis

DR. C. W. STILES, Washington, D. C., gave a lecture on hookworm; its method of infection, prophylaxis, etc.

Sources of Hookworm Infection and the Manner in Which the Infection Takes Place

DR. C. C. BASS, New Orleans: Different species of hookworms have been found parasitic in different animals. Only two species infect man—*Ankylostoma duodenale* and *Uncinaria americana*. The sources and manner of infection is the same in each. The worms live in the small intestine where they lay eggs which pass out mixed with feces. Under favorable circumstances of moisture, temperature, and shade the eggs hatch out larvæ in 24 hours. Hatching does not occur in the intestinal canal. In about 2 days the larvæ shed their skin somewhat as snakes do, and anatomic changes occur. In 4 or 5 days another such change occurs and the animal becomes capable of infecting man. The organisms may live in this stage many months without food, requiring only moisture. Freezing kills them. In 1898 Loass accidentally soiled his hands with culture of encysted larvæ, and finding ova in his stools concluded that he had been infected through the skin. Later he proved conclusively the correctness of his theory by placing larvæ on the arm of a man not then infected. After a few hours an itching papular eruption, later becoming vesicular, and still later pustular. These skin lesions that were exactly like ground-itch got well in 10 or 12 days. He also infected dogs with larvæ of the dog hookworm and demonstrated the larvæ in the skin, blood vessels, lymphatics, heart, lungs, trachea, and intestinal canal. Bentley (1902) found a larva which he took to be hookworm in a water sore or ground itch. He then infected a man and found ova in the stools in 7 or 8 weeks. These experiments with *Ankylostoma duodenale* have been paralelled and found to hold good for *Uncinaria americana* by Claude A. Smith of Atlanta, Ga., and others in this country.

I wish to put on record the following experiment: A culture of encysted *Uncinaria americana* in a mixture of charcoal and feces was applied to one side of the arm part of a lady's kid glove which had previously been thoroughly soaked in sterile water. A part was selected free from seams or apparent holes. On the other side a small lump of mud of sterile soil and sterile water. Three hours afterward this was removed—and after long search four living larvæ and two dead ones were found. If larvæ pass through leather experimentally, it is probable that they do this practically; and this infection may occur from getting infected mud on wet shoes. This would explain the cases of hookworm disease in those who

have not had typical ground-itch. The course of the worms through the skin is as follows: The larvæ enter the skin chiefly through the hair follicles and sweat pores, enter the capillary blood vessels and the blood stream, pass through the right heart to the lungs, into the bronchi, thence to the mouth, and may be swallowed, pass through the stomach to the small intestine, where they attach themselves to the mucous membrane and develop to adult life. They may live several years, laying enormous numbers of eggs which pass out with the feces of the patient.

Vasectomy: The Surgeon's Part in the Treatment and Prevention of Criminals and Defectives

DR. M. O. SHIVERS, Greenville: No condition of so grave import has received so little consideration at the hands of the general practitioner as degeneracy and criminology, and their treatment. It will be through the education of the medical profession as a whole that this important advance in the control of crime and degeneration will be made. The surgical aspect of vasectomy presents little for consideration other than that it is easy of performance and has no serious consequence. The operation in the female is more difficult, but the oviducts may be reached and ligated through a median incision, or anterior colpotomy, the former being the easier, the latter the less dangerous. That criminals and degenerates are on the increase is evidenced by the enormous increase in the expense of state institutions and the multiplicity of the occupants. It is not uncommon for men and women to return to the asylums after a few years stay at home, during which time children were born to them. The three measures whereby procreation may be prevented are segregation, sterilization and prohibitive marriage. Sterilization by vasectomy is easiest, safest and most practicable with no restrictions or punishment attached thereto. Vasectomy is a rational measure in that it does in a few minutes what Nature accomplishes in generations with idiots and imbeciles, namely sterilization.

DISCUSSION

DR. P. M. KIMBROUGH, Morgan City: The State Board of Health ought to have supervision of this matter.

DR. H. R. SHANDS, Jackson: What is the legal status of this matter? I consider it an advance in the care of criminals and insane, and the members of the Mississippi Medical Association should do what they can to look into the matter.

DR. C. KENDRICK, Kendrick: Every physician knows that something ought to be done along the lines suggested. I am sure there is nothing in the constitution of the state that will conflict with it and am of the opinion that the matter should be brought before the legislature at the next session. Every physician knows parents who ought not beget children. I know of cases in which patients returned from the asylum apparently cured and begot children who of course inherited the infirmity. I believe that those afflicted with insanity, confirmed drunkards, and habitual criminals should be compelled to undergo the operation. I have always favored a law of this sort and in my graduating thesis in 1873 I advocated a measure of this kind, although I then knew nothing about this method of doing it. What effect would there be 8 or 10 years after the operation; has the operation been tried long enough?

DR. JOHN Y. MURRY, Ripley: Something of this sort should have been done long before now. The method is in use in the State of Indiana. Physicans should tell the press about such matters and it would take the subject up and educate the people.

DR. H. H. HARALSON, Vicksburg: Dr. Shivers' paper should be referred to the standing legislative committee.

DR. M. O. SHIVERS, Greenville: The public seems to think that castration and ovariotomy are too severe to be used in the prevention of insanity, but it is really what the people need. It would not be a very difficult matter to have a law along these lines passed by the Mississippi legislature, especially since other states have adopted it. I think it best to begin with the insane and habitual criminals and to carry it further later. There have been no bad results from the operation performed 10 years ago.

Case of Ruptured Pyosalpinx Causing Diffuse Peritonitis

DR. H. R. SHANDS, Jackson, gave the reasons for the rarity of this accident and reported the case of a patient who recovered after two operations: one for drainage, the other for the removal of the uterine adnexa.

DISCUSSION

DR. J. W. BARKSDALE, Vaiden: It is not long since progressive peritonitis was considered beyond relief, but now we no longer feel that we are going up against a hopeless proposition. In many of these cases we owe the saving of the life to the character of the pus contained in the tube. Careful attention to every detail in these cases will insure success.

DR. J. G. GAITHER, Oxford: I advise the introduction of normal salt solution in the rectum. The Fowler position will prevent much postoperative nausea which is dangerous.

DR. M. O. SHIVERS, Greenville: There is too much peritonitis; it reflects on the surgeon and on the physician who failed to recognize the condition. This is another instance of the necessity of a strong and close connection between the physician and the surgeon.

DR. H. R. SHANDS, Jackson: In some of my cases I was very much surprised to see recovery ensue. I think it best to drain through the vagina when that is possible. I have looked on this as a life-saving operation.

Perineal Prostatectomy

DR. J. W. BARKSDALE, Vaiden, described the anatomy of the field, the operation, the after-treatment and the effect of the operation on the sexual function. Until the past year he has preferred the suprapubic route, but now considers the perineal preferable from simplicity of operative procedure, dependent drainage and freedom from complications.

DISCUSSION

DR. J. DARRINGTON, Yazoo City: I know of no operation that adds more to the relief of human suffering than this operation performed on old men. Life is a misery and any operation that gives relief is worthy of consideration. Nearly all of the bladders are septic, and we must get them in good condition. We should get the patient out of bed as soon as possible.

DR. J. W. BARKSDALE: The operation ought to be uniformly successful in selected cases, but, unfortunately, we cannot always select our cases.

Non-Operative Treatment of Fractured Femur

DR. J. P. WALL, Jackson, described the method of treating fractures of the femur used in Bellevue Hospital, New York.

DISCUSSION

DR. J. W. BARKSDALE, Vaiden: How is the patient put in a sitting posture in these cases?

DR. J. C. GAITHER, Oxford, said that the general practitioner should have plenty of bandages on hand in these cases, no less than 35 or 40 2½-inch bandages, and should be sure to have bandages thick enough. He said that it was very tiresome to the assistant who holds the leg, while someone else performs the operation, and described a mechanical arrangement which he had seen used for this purpose, which facilitated the work considerably.

DR. H. R. SHANDS, Jackson: Fracture of the femur is most difficult to deal with. I have had considerable trouble with this sort of fracture. There is rarely an anatomic reduction.

DR. J. P. WALL: In Bellevue Hospital two strong men hold the leg during the operation. If the patient cannot sit up straight, put him in a semirecumbent position. I advise against putting on a very thick cast; 35 bandanges are too many. The cast should be made snug without being too tight. That is the Bellevue Hospital treatment and it gives excellent results.

Defects in Our School System

DR. H. FLOWERS, Brookhaven: The idea expressed in the phrase *mens sana in corpore sano* should be the basic principle in all educational methods. Defective vision, diseased tonsils and adenoids play no mean parts as causative factors of idleness and dulness. Infectious diseases are considered too lightly. Sufficient play-grounds are rare.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

Eighth Triennial Session, held in Washington, D. C., May 3-5, 1910

The President, DR. EDWARD L. TRUDEAU, Saranac Lake, New York, in the Chair

ARTIFICIAL IMMUNIZATION

Formation of Antibodies

DR. LUDWIG HEKTOEN, Chicago, who was to have read a paper on this subject, was unavoidably absent, but his paper was read by DR. WILLIAM H. CARMALT, secretary of the congress.

Any substance capable of inciting the formation of antibodies is an antigen. Microbes and various microbic derivatives, toxins, red blood corpuscles and other cells, as well as serum, constitute or contain the most important antigens, which appear to be colloid proteins, and the antibodies which concern us most are antitoxins, lysins, agglutinins and opsonins. The paper then took up the simple-body curve; gave illustrations of the antibody curve; referred to the significance of the antibody curve, the effect of quantity and mode of introduction of antigen on the production of antibodies, and the formation of different antibodies for the same cell.

The paper then discussed multiple immunization, referring to the influence of wholly distinct antigens on the production of the corresponding antibodies. In regard to the antibody formation in infectious diseases it was stated that in acute bacterial diseases the course of the antibodies in the typical attack resembles altogether that of the antibody curve after a single injection of antigen in a normal animal. This has been found to hold good for the pneumococco-opsonin in pneumonia, for the streptococco-opsonin in erysipelas, for diphtherio-opsonin in diphtheria, and also for the diplococcus of Laveran in mumps. In acute articular rheumatism the opsonin for micrococcus rheumaticus and streptococcus describe the same course; as new joints become involved the index sinks below normal, and on improvement it rises above normal. In forms of acute otitis in which pseudo-diphtheria bacilli are dominant the opsonic index for these bacilli may cover a wide range, the changes often corresponding to changes in the clinical symptoms. In these diseases the opsonin is the only antibody for the bacteria in question that under present circumstances permits of ready measurement. During the early stages there is a fall in the specific opsonin in the blood; as the symptoms begin to subside the curve rises, suggesting that more antibody is being liberated than is neutralized by the pathogenic substance. The curve usually reaches the highest point a day or two after the acme of the symptoms and then in many cases it falls rather abruptly. The curve is readily affected by complications, at the onset of which it usually falls. In rapidly fatal cases, *e. g.*, pneumonia, the curve may not return from the primary fall but sink lower and lower. The characteristic course of the streptococco-opsonin in scarlet fever indicates that the streptococcus plays an important part in this disease whether it be regarded as the primary cause or not. Most of the measurements on the basis of which the foregoing statements are ventured have been made by means of Wright's method. In reply to objections to the reliability of this method it may be pointed out that the results obtained in different diseases and in different cases of the same disease appear consistent; that in scarlet fever, diphtheria and pneumonia, independent observers have reported similar results; and, finally, that the dilution method, whenever used, has given results that compare closely with those given by determinations of the index. The conditions appear more complicated in cholera, dysentery and typhoid fever in which it is possible to follow the course of at least three antibodies. The agglutinin formation in typhoid in most cases begins in the first or the early part of the second week of the disease and the maximum is usually reached in the third week.

Relation of Anaphylaxis to Immunization

DR. FREDERICK P. GAY, Boston: The great interest in anaphylaxis lies in its close association to phenomena of increased resistance or immunity, and the question of greatest ultimate interest is the exact relation between anaphylaxis and immunity. The greatest advance in recent years in immunity has been due to the study of conditions of resistance which occur following the injection of harmless protein substances like red blood cells, rather than the studies in immunity to bacteria. It is found also that the greatest advances in knowledge of anaphylaxis have been obtained by studying anaphylaxis to non-toxic proteins. The study of anaphylaxis to non-toxic proteins, such as blood serum and egg-white, has shown us that the processes vary markedly in accordance with the animal species chosen for treatment. In the guinea-pig, anaphylactic shock, which is produced on the second injection of a given protein substance, would seem to depend on an intracellular reaction between the antigenic serum and sessile precipitins which have been formed in the cells following the first injection. This reaction is accompanied by a disappearance of the reactivating alexin (complement) from the blood. In rabbits the intensity of the anaphylactic shock would also seem to run parallel to the formation of precipitins in the circulation. The shock itself is due to separation of some toxic substance from this precipitin reaction as it occurs in the circulating blood, and the effect on the cells is secondary rather than primary, as is the case in guinea-pigs. Although the first accurate description of anaphylaxis was given by Richet while working with certain toxins from shell-fish, there is no absolute proof from his experiments that the anaphylaxis was produced to the toxins as such. More recent work, both with animal toxins and with the soluble toxins of bacteria, would lead us to think that the rare conditions of anaphylaxis which occur following injections of these substances are due rather to anaphylaxis to the protein substances which accompany the toxins than to the toxins themselves. Thus, in the tuberculin reaction, we may assume that the reaction is due to anaphylaxis to the products of the bacterial bodies of the tubercle bacillus rather than to anaphylaxis to the toxin of the tubercle bacillus. The phenomena of anaphylactic shock in animals sensitized to bacteria would seem to be due to a rapid liberation of the endotoxins of the bacteria brought about, probably, by the lysins which are formed following the sensitizing injection. In considering the data as to the relation of anaphylaxis to active immunity, two questions of importance arise: First, of what value is the condition of anaphylaxis to the host? The condition is of obvious disadvantage if fatal intoxication occurs on anaphylactic shock, but although such conditions occur experimentally, it is not certain how frequently they are brought about under natural conditions. Other disadvantages have been indicated. Thus non-specific sensitivity of sensitized animals to intoxication by salt solution has been noted and similar conditions may be evidenced in ways of which we are not aware at present. The supposed advantage of anaphylactic shock is attributed to rapid formation of solid immunity following such violent reaction. In addition, certain disadvantages follow even non-fatal anaphylactic shock. The animal is found to be more subject to other infections due possibly to disappearance of alexin which accompanies the shock. The sudden disappearance of the lysins, the action of which causes the shock itself, may also be of extreme, although temporary, disadvantage in protecting the animal against the virus which has been introduced in causing shock. The conclusion then is drawn that not only is it unproved that a condition of anaphylaxis is of value to the individual, but that there is strong evidence for believing that the condition as such is of distinct disadvantage to the host.

This leads to the second question: Are the conditions of immunity and anaphylaxis inseparable? The possibility of such a separation has been suggested. It has been shown repeatedly that the condition of anaphylaxis may be transferred from a sensitive animal to a normal animal by means of the blood serum. The transfer of this condition requires a definite period of incubation which seems to indicate that the mechanism of transfer is not exactly the same as in the transfer of immune properties of serum. In transferring immunity to bacteria by antibacterial sera we may also transfer a sensitization to the bacteria themselves, and the same questions arise in relation to the passive transfer of anaphylaxis which confront us in considering the condition of active anaph-

ylaxis. The disadvantage to the recipient of serum, if there is a disadvantage, will be the same as the advantage in the originally sensitized animal. The suggestion is offered that the notorious inefficiency of the majority of the antibacterial sera, both for prophylactic and curative purposes, may be due in some way to the transfer to the patients of anaphylaxis or lytic bodies rather than immunity or coagulating antibodies, and the possibility of producing pure coagulating antibacterial sera is worthy of investigation. In addition, we have to consider the possible danger of producing anaphylaxis to the serum itself which contains the bacterial antibodies. In treatment by serum of an immunized animal of an alien species, which is obviously necessary in the treatment of human beings, the possibility of sensitizing to the proteins of the alien serum is of importance. This danger has been emphasized by v. Pirquet and Schick, who have described the generalized, accelerated reaction which may follow repeated doses of antitoxin in human beings. The symptoms produced on second injection of horse serum in human beings may be similar. The local reaction with serum such as the one which occurs on repeated injections of horse serum in a rabbit (Arthus' phenomenon) occurs more frequently in human beings than the generalized guinea-pig reaction, as has been shown by Lucas and Gay.

Artificial Immunization in Non-Bacterial Diseases

DR. S. P. BEEBE, New York: In recent investigations respecting anaphylaxis, the reactions of the organism to proteins of non-bacterial origin have been studied and the conclusions reached afford a sounder theoretical basis for our understanding of infections. At present we have investigations on malignant tumors in mice, rats, dogs and rabbits, all of which agree in what appear to be certain fundamental principles in cancer immunity. The first of these principles is that a varying percentage of animals is normally immune to the tumor. For what reason we do not know. In some instances apparently it is related to the external physiologic surroundings, such as climate, food and water supply, and in other instances to the inherent character of the tissues in which the tumor is planted. The second principle is that a varying percentage of successfully planted animals recover spontaneously, the number depending on the virulence of the tumor and the resistance of the animal. We have found means to increase the virulence of the tumor, the most successful of which are as follows: (1) growing the tumor in particularly susceptible animals; (2) selecting carefully those tumors which give the highest percentage of takes; (3) preliminary heating of the tumor in an optimum temperature; (4) selecting the most suitable location for the implantation—the axilla has been found better than the dorsal region; (5) selecting the older tumors in preference to the young; (6) implantation from the metastases instead of the original tumor. The resistance of the animal, likewise, may be modified by various procedures, the most important of which are: 1. Making the first plants from avirulent tumors and using the immunity thus awakened to combat the more virulent strains later. 2. Subjecting the grafts before implantation to the effect of recovered immune serum. 3. Implantation of small amounts of tumors; animals may resist a small dose and the immune forces thereby be stimulated to the resistance of a larger amount. 4. Preliminary infection of embryonic tissue, various organ tissue or even the blood of the homologous species. The third principle is that the recovered animal is immune for a long time to further implantation of tumors of like virulence, and as a consequence of this principle the highest degree of immunity with which we are familiar occurs in those animals which have grown a virulent tumor and have spontaneously recovered therefrom aided, perhaps, by some one of the various methods under our control.

Immunity to tumors is not to any considerable extent a serum immunity, inasmuch as the usual methods of demonstrating immune factors by serum reactions have in most instances been negative. Clowes, however, found that serum from a recovered animal had a deleterious effect on tumor cells, preventing their growth in a considerable percentage of cases on subsequent transplantation. In a paper published by Crile and myself it was shown that transfusion of large quantities of recovered blood to an animal with actively growing tumors would cause complete absorption of the latter with the usual subsequent immunity to further implantation. More recently, I have carried out a further series of transfusion experiments in which I found unmistakable evidence that the regression of the tumor is an essential factor for the future immunization of the animal, and that transfusion of immune blood into an animal susceptible to the tumor but free of tumors at the time of the transfusion does not confer immunity for subsequent implantation. There apparently must be some interaction between the serum and tumor by which the regression is started, the immune forces of the animal thereby awakened and future protection assured. It is not necessary for the animal to have large tumors at the time of the transfusion or that time should be allowed for their complete absorption in order to show immunity.

At present the method which appears to be available for immunizing an animal with already growing tumors is by repeated subsequent implantations of tumors. Gay has modified this procedure by obtaining complete absorption of the first tumor by the subsequent transplantation of only one graft, provided it was done before the development of metastases. Similar observations have been made by Van Dungern and Coca working with the transplantable sarcoma of hares. It would seem from the results of these experiments that a method of vaccination is a logical procedure in the treatment of malignant tumors, but it must be observed that efforts to accomplish the same results with tumor extracts, or with tumor cells killed by heat or chloroform, or other physical means, have not served to stimulate the development of the immunity. Nothing short of the living tumor cells is capable of having such an effect.

The interest which all cancer investigators have had in these experiments on cancer immunity has been greatly stimulated by the recent observations of Hodenpyl. He was fortunate in having under his observation a human patient with carcinoma who showed remarkable spontaneous regression of a far-advanced tumor, the tumor being primary in the breast, with extensive metastases in the liver. The regressive processes were accompanied by the production of chylous ascitic fluid, an observation quite in harmony with that published by Mackay (*Brit. Med. Journal*, July 20, 1907). The difference is that in this latter instance the recovery was ushered in by the production and absorption of a pleural exudate. The chylous ascitic fluid obtained by Hodenpyl has been injected subcutaneously and intravenously in a number of patients with favorable therapeutic effects in many instances.

Discussion on Anaphylaxis and Immunity

DR. J. GEORGE ADAMI, Montreal: With regard to immunization against disease, let us take the ordinary cases of malignant streptococcus endocarditis. In that condition there is a bacteriemia. The fact that the cusps of the heart valves are involved shows that streptococci have been circulating in the blood and have affected this particular organ. One knows also from clinical experience that in these cases he can make cultures from the blood and get fairly frequent growths of streptococci out of the blood taken from the body during the course of the disease. The spleen is an organ peculiarly situated so as to filter off bacteria circulating in the blood. The nature of the splenic anatomy is such that the bacteria must be arrested. The bacteria are in the blood, but it is rare that one gets an abscess or a severe suppurative condition of the spleen. It is frequent enough to get an infarct, or simple necrotic processes, and one finds that the spleen has been or is the point of election for these. There is natural destruction of bacteria going on in the spleen. It affects various bacteria which one may choose for the purpose of inoculation. The same is true with regard to the muscles. How rarely, with any form of bacterium, do we find abscesses occurring in the muscles? In all organs that are highly developed and have a fine capillary circulation the bacteria must be arrested in the blood, and we find no signs of infection. The ordinary habit of the endothelium lining the vessels of these tissues is to destroy bacteria. In other words, there is a definite, non-specific immunity on the part of these cells.

DR. ALFRED STENGEL, Philadelphia: The question arises whether in all our attempts at bacterial immunity we are always following logical lines. Particularly am I impressed with the fact that the newer method of vaccination immunization is being pushed very actively in certain directions which may be surrounded by grave dangers. From my experience in cases of chronic endocarditis I can say that not only has vaccination done no good, but in the cases I have seen, it has done positive harm, and that is the experience of Dr. Billings and Dr. Rosenau, of Chicago, in other general bacteriemias, as pneumonia, etc., in which other results might be expected. As practical clinicians, we should take to heart in the use of these treatments the most cautious dosage before we proceed with any ambitious attempt at obtaining quick results. From the view of the clinician, I feel that we can express a high sense of satisfaction at the work that has been done by some of our men in this country along the lines indicated.

DR. LEO. LOEB, Buffalo, N. Y.: It seems to me that Dr. Beebe has proved beyond doubt that the different cell constituents of different organs are specific, and previous observations with cytolysis point to the same conclusion. Dr. Beebe's experience regarding the action of nucleoproteins is of great importance not only in regard to immunity, but for the interpretation of ferment action. He shows that the heating of nucleoproteins entirely destroys the characteristic of ferment action, and that seems an hypothesis frequently given expression, namely, that ferments are nucleoproteins. Another fact which coincides with the conclusions of Dr. Beebe is this: we know that the characteristics of the father are transmitted to the children by the spermatozoa, and that the spermatozoa consist mainly of nucleoproteins and allied substances. It agrees with Dr. Beebe's results that the nucleoproteins are the carriers of the specific characteristics. I am not inclined to believe that only nucleoproteins have that character, but that other proteins may have it to a less extent.

Regarding tumor growth, it is possible in mice to produce immunity against tumor growth, whether it be liver or spleen, by the introduction of red blood corpuscles. They do not grow after injection. On the other hand, we can immunize with heated tumor material which is of decreased virulence on account of the condition that the tumor material is grown for some time. These facts seem to be contradictory. Again, there is no doubt that pregnancy favors the growth of tumors under certain conditions. Clinicians have made that observation and experimental observers have had the same experience. On the other hand, in certain conditions pregnancy inhibits the growth of tumors. In accordance with relatively slight changes a great difference in results may be obtained. We have never been able to produce experimentally by inoculation of tumor material active sera with which we can cure cancer. Under certain conditions antibodies are produced in the case of tumor growth. Why is it not possible for us to show experimentally in most cases the presence of such antibodies? I believe the condition is similar to that prevailing in certain cases of internal secretion. In certain cases we can prove the presence of internal secretions by the injection of extracts of organs producing that internal secretion or by injecting blood serum. Probably certain antibodies are produced continuously in small quantities and rapidly removed from the body, and thus give no tumor growth, and we cannot make use of passive immunity. But we have much better prospects for using active immunization in cancer growth in the near future, and I feel that marked progress will be made by that means of immunization.

Value of Optimism in Medicine

DR. EDWARD L. TRUDEAU, Saranac Lake, N. Y.: Optimism is a product of a man's heart rather than of his head; of his emotions rather than of his reason; and on that account is rather frowned on by physicians whose scientific training naturally leads them to depend entirely on the qualities of the intellect and look with suspicion on any product of the emotions. Optimism is a prominent factor in anything a man may achieve in life. It is a mixture of faith and imagination, and from it springs the vision which leads him from the beaten paths, urges him to effort when obstacles block the way, and carries him finally to achievement, where pessimism can only see failure ahead. Optimism means energy, hardships and achievement; pessimism, apathy, ease and inaction. Optimism may and often does point to a road that is hard to travel, or to one that leads nowhere; but pessimism points to no road at all. The doctor, whether he be a scientist and his life wholly given to scientific investigation in a laboratory, where reason and intellect reign supreme, or whether he be wholly a practicing physician and surgeon in daily contact with suffering humanity in its struggle with disease, will need all the optimism he can cultivate if his life is to be as fruitful in results as it can be made. The practicing physician must have optimism if he is to develop a full degree of efficiency in meeting the terrible emergencies of acute illnesses and accidents or the long-drawn-out struggle with lingering and hopeless disease and at the same time inspire his patients with a degree of optimism which means everything to them in the ordeals they have to pass through. Ian Maclaren's optimism was of this kind, and Dr. Grenfell's optimism is every day helping him to heal, not only the sick bodies, but the broken spirits of men as well. This is the highest type of optimism the doctor may attain to, as its influence may reach not only to the physical, the intellectual and the psychical, but even to that dim ethereal region of the spiritual, from which springs man's most sacred and cherished aspirations. Perhaps the most brilliant and striking examples in our time of the value of optimism, each representing one of the two extremes of the medical profession, that is, experimental science, and practical medicine and surgery, are Pasteur and Grenfell. Optimism is the one thing that is within the reach of us all, no matter how meager our intellectual equipment, how unpromising our outlook at the start, or how obscure and limited our careers may be. In a long life which has been lived daily in contact with patients beyond the reach of human skill, who through months and years of hopeless illness looked to me for help, I have indeed had need for all the optimism I could cling to. It has ever been a precious asset to me, and I hope to those about me as well, and has never entirely failed me. Let us not, therefore, quench the faith nor turn from the vision which, whether we own it or not, we carry, as Stevenson's lantern bearers their lanterns, hidden from the outer world, and thus inspired many will reach the goal; and if for most of us our achievements inevitably must fall far short of our ideals; if when age and infirmity overtake us "we come not within sight of the castles of our dreams," nevertheless all will be well with us, for, as Stevenson tells us rightly, "to travel hopefully is better than to arrive, and the true success is in labor."

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

One Hundred and Twelfth Annual Meeting, held at Baltimore, April 26-28, 1910

The President, DR. G. MILTON LINTHICUM, in the Chair

Officers Elected

The officers elected were given in THE JOURNAL, May 7, p. 1551.

The House of Delegates adopted resolutions endorsing Senator Owen's bill for the creation of a national department of health.

President's Address: Some Public Health Problems

This will appear in full in THE JOURNAL.

Prevention of Racial Deterioration and Degeneracy, Especially by Denying the Privilege of Parenthood to the Manifestly Unfit

DR. LEWELLYS F. BARKER, Baltimore: The class of people to which I refer includes the insane, the imbecile and feeble-minded, the chronic inebriates, the criminal classes, the habitual vagrants, the permanent pauper class, the congenital deaf and dumb and the sexual perverts. In every state there is a relatively large number of people who come under some one of these headings. Many, fortunately, are segregated, but many are outside of institutions, and even those who spend some

time in institutional life have periods of liberty. There are no less than 3,700 insane persons under care in Maryland at the present time. In the Maryland Asylum and Training School for the Feeble-Minded there are 305 idiotic, imbecile, feeble-minded and epileptic children, and there is a waiting list of 200. To these, 48 families have contributed from 2 to 4 individuals each. It is safe to assume that there are at least 2,000 defective children in the state, not including the so-called backward or exceptional children. In the Maryland Penitentiary 1,102 persons are incarcerated, in the House of Correction 570, and in the City Jail 579. A large proportion of the children who are arrested and brought into the Juvenile Court came from homes in which the parents are abnormal. During 1909, no less than 2,562 children under 16 years of age were so arrested in this city. The large number of paupers in the state is indicated by the fact that there are on the average between 1,300 and 1,400 people constantly at the Bay View Almshouse, some tuberculous, some insane, but mostly inefficient, intemperate ne'er-do-weels. According to Dr. Dana, the cost of the care of the insane and feeble-minded in this country is $85,000,000 and is increasing absolutely at the rate of 4 per cent. As to the causes of this dreadful burden of degeneracy, two main sets of influences are at work; first, those of environment; second, those of heredity. Most attention has been paid to the first of these. Very little attention is paid to the important matter of parenthood. Of the various methods which have been suggested for limiting the procreation of the unfit, the only ones likely to receive any large public endorsement in the present state of society are (1) permanent segregation, or (2) some form of surgical sterilization. Permanent segregation of all members of the class we are considering is practically impossible, and if it were possible it would cost an enormous sum. Surgical sterilization in the form of castration will probably never meet with widespread approval. Whether or not surgical sterilization in the form of Rentoul's operation of vasectomy in the male and salpingectomy in the female will become popular remains to be seen. Belfield of Chicago, writing of vasectomy, says: "It is an office operation—it is less serious than the extraction of a tooth." The Indiana legislature in March, 1907, passed a bill authorizing the sterilization of "confirmed criminals, idiots, imbeciles, and rapists" in the state institutions of Indiana; since then more than 800 convicts have been sterilized; in more than 200 of these the operation was done at their own request. At the present, I prefer not to make any specific recommendations; the important thing for us to do, it seems to me, is to take the whole matter of race improvement under consideration, to inform ourselves and the citizens of Maryland of the conditions which prevail and to try to find out the best methods of improving them. "A good tree cannot bring forth evil fruit; neither can a corrupt tree bring forth good fruit."

General Professional Responsibilities for Preventing Blindness

DR. HIRAM WOODS, Baltimore: Two bills were passed by the Maryland legislature, just adjourned, which have important bearings on the prevention of blindness and the preservation of eye health. One, the Midwifery Bill, received executive approval. The other, the Optometry Bill, did not. The enactment of the first puts on the profession certain duties; the veto of the second saves it from dangerous encroachment on the medical practice law. Having proved to the legislature and the governor the ignorance of the midwife, we are now confronted with the duty of providing means for her training. In this training must be included instruction in the prevention of ophthalmia neonatorum. An appalling loss of sight persists from a disease both preventable and curable. Credé's prophylaxis, modified to the extent of substituting a 1 per cent. for a 2 per cent. solution of silver nitrate, is in general use in the maternities, and the disease is all but abolished in these institutions. The conclusion seems irresistible that midwives are responsible for most cases of this form of blindness and physicians for the remainder. As for the Optometry Bill, there is abundant evidence that many members of our profession did not know what it meant. On its face, it looks like an advance in protecting the public; but certain things led the oculists to study the bill closely. We know, in the first place, that many serious eye troubles often manifest themselves through discomfort in work, or apparent changes in refraction, and that correction of the apparent error does not reach the real trouble. The bill required the governor to appoint a board of five examiners, from persons previously engaged in the practice of optometry. This board was given absolute freedom in selecting the subjects in which future business rivals were to stand examination. The optometrist was not to use drugs, even though the diagnosis of serious eye lesions is frequently impossible without mydriasis. Oculists are teaching internists many early signs of systemic disease, some of which are functional. On the other hand, oculists are learning from general pathology much hiterto unknown about the causation of eye lesions. If the optician, with his new name, has his way, ophthalmology will be given a more "popular" name, and all save what the tradesman thinks essential will be eliminated from the course of instruction.

Intestinal Perforation in Typhoid Fever

DR. CHARLES BAGLEY, JR., Baltimore: This lesion has not received the attention and study which it deserves. In 1903, Harte and Ashhurst were able to collect only 362 cases of typhoid perforation in which operation had been performed, with a mortality of 74.03 per cent. I have made a similar search of the literature from Oct. I, 1903, to Dec. 31, 1909, a period of 6 years and 3 months, and have found only 265 cases reported in which operation was done, with a mortality of 55.09 per cent. In attempting to arrive at an early diagnosis, I am convinced that we must make greater use of the preperforative stage, as it is certainly less dangerous to operate on a patient one hour before rather than 8 hours after perforation occurs. The principal symptoms are sudden pain, tenderness, and rigidity. The most important step has been taken when an early and correct diagnosis has been made. After the patient reaches the operating room, the table should be placed in the reverse Trendelenburg position. The abdomen should be carefully and rapidly prepared, and a right rectus incision made under cocain, using Schleich's solution, until the peritoneum is reached, this being anesthetized by the application of 10 per cent. cocain on cotton pledgets. The perforation, when found, should be closed with purse-string or Lembert suture if not too friable. Prolonged searching is inadvisable. Drainage is to be recommended, as among other things it provides for a possible second perforation. Flushing the abdominal cavity should be condemned.

DISCUSSION

DR. GORDON WILSON, Baltimore: In spite of its frequency and importance, this condition is often unrecognized. The cardinal symptoms are pain, tenderness, and rigidity. Unfortunately, many text-books do not differentiate between the symptoms of perforation and those of the resulting peritonitis.

DR. J. H. BRANHAM, Baltimore: When resection is necessary, end-to-end anastomosis is often followed by sloughing; lateral anastomosis gives much better results.

DR. RANDOLPH WINSLOW, Baltimore: Operation must be done promptly, and therefore usually by the house surgeon, for if delayed until the arrival of the visiting surgeon, it is apt to be unsuccessful.

DR. JOSEPH C. BLOODGOOD, Baltimore: I agree with Dr. Winslow as to the urgent need of prompt operation. Not only the physicians, but also the nurses, in attendance in a case of typhoid, should be constantly on the watch for symptoms of perforation, the most important of which are pain and localized tenderness. In some cases exploration will be negative, but in such cases at the Johns Hopkins Hospital there has been no mortality. I am inclined to believe that nitrous-oxid anesthesia may perhaps supplant cocain anesthesia in such cases. If there is any doubt as to the integrity of the suture the bowel should be sutured to the parietal wall.

DR. L. K. HIRSHBERG, Baltimore: Why do those patients operated on about 8 hours after perforation show a lower mortality rate than those operated on even sooner?

DR. CLOTWORTHY BIRNIE, Taneytown: In one case the sudden onset of pain and tenderness was followed by the appear-

ance of a mass in the right iliac fossa. The patient recovered in spite of the fact that operation was not permitted, so that I am inclined to think it was a case of typhoid appendicitis.

DR. EMIL NOVAK, Baltimore: The researches of Buxton showed that the entrance of a large number of typhoid bacilli into the circulation may produce death either within a few hours or after several days, and not so frequently in the intermediate period. Death at the early period is due to the setting free of an overwhelming amount of the typhoid endotoxin as the result of the extensive destruction of the bacilli. Hence the frequency of death by "shock," especially after the old practice of irrigating the abdomen. In the diagnosis of perforation, some lay much stress on the disappearance of liver dulness, but this is misleading.

DR. R. B. NORMENT, Baltimore: Inasmuch as mere drainage has been employed to care for a possible second perforation, it might be justifiable for the general practitioner, in case of emergency, especially in the country, to resort to this measure in the treatment of the original perforation.

DR. A. F. VAN BIBBER, Belair: There is difficulty in bringing the patient to early operation in country practice. I believe, therefore, that the point brought up by Dr. Norment is a practical one.

DR. CHARLES BAGLEY, JR., Baltimore: While it is true that lateral anastomosis is less dangerous than the end-to-end, it is rare that either is justified. Dr. Birnie's case, I believe, may have been one of perforation, for some recover even without operation.

A Rational Basis for the Study of Uterine Hemorrhage

DR. EMIL NOVAK, Baltimore: Hemorrhage is commonly looked on as a distinctly pathologic phenomenon, and hence the fact that there is such a thing as physiologic uterine bleeding lends a special interest to the study of uterine hemorrhage of the pathologic type. Not many years ago the cause of uterine bleeding was always sought in the endometrium, while now there is a tendency to explain many cases as a result of changes in the myometrium. That the endometrium is at fault in some cases admits of no doubt, as after abortion, in polypoid conditions, carcinoma, etc. At the same time, there is nothing characteristic in the appearance of the endometrium from bleeding uteri, as shown by the personal microscopic study of 50 cases, many of which showed an entirely normal mucosa, some a true endometritis, some a glandular hyperplasia irrespective of that occurring normally in the premenstrual period, etc. Muscular insufficiency (Theilhaber), disturbances in the elastic tissue (Anspach), or disease of the blood-vessels may explain certain cases. But the fact remains that there is a large group of so-called idiopathic cases in which no anatomic lesion whatsoever can be found. In these cases much can be learned by bearing in mind the entire mechanism of normal menstruation, which at bottom is a periodic vasomotor phenomenon affecting the pelvic vessels, the changes in the endometrium being probably only secondary. The underlying cause of menstruation is probably an internal secretion or hormone from the ovary, as shown by the effects of removal of the latter. Other hormones, however, also closely related to the process, as shown by the amenorrhea of pituitary deficiency and of thyroid hypersecretion, and the menorrhagia so frequently seen in myxedema. Many other facts show that the cause of at least a certain number of the many cases of idiopathic uterine hemorrhage is disturbance of one or other of the hormones of the body.

DISCUSSION

DR. J. H. BRANHAM, Baltimore: There is no doubt of the influence of the ductless glands in causing certain cases of uterine hemorrhage. The curette offers a valuable means of diagnosis when an anatomic cause exists. Not a few cases of bleeding are due to varicocele of the broad ligament, and many to displacement of the uterus.

DR. T. S. CULLEN, Baltimore: In a majority of cases there is some anatomic cause for the bleeding, but in a certain number the explanation must be sought along other lines, as Dr. Novak has pointed out. Our principal concern in such cases is the possibility of cancer, which usually, however, can be eliminated by the examination of curettings or of a clipping from the cervix.

Case of Mediastinal Tumor Arising from the Thymus

DRS. J. C. BLOODGOOD AND J. A. CHATARD, Baltimore: The patient was a man of 22, unmarried, who had never been very ill. He used a moderate amount of alcohol, and denied any venereal disease. Three weeks before admission to hospital he noticed a cough, and thought he had caught cold, as there was fever and a chill at the outset. In a few days he noticed that the neck was larger on the left side, while the left arm was somewhat swollen. The cough became decidedly worse and he had difficulty in breathing, getting relief only in an upright position. Appetite was good; bowels were regular. Physical examination showed a well-developed and well-nourished man, with slight cyanosis of the face and finger-tips, and some dyspnea. The left pupil was larger than the right, both reacting normally. There was some dilatation of veins over the left upper chest and shoulder. Above the left clavicle was a rather firm, nodular mass, not painful to pressure; no bruit. Above right clavicle was a large gland the size of a pigeon-egg; glands elsewhere over the body were somewhat enlarged. Expansion of the left side of the chest was distinctly less than of the right, and the circumference was greater. The lower left back and axilla, on percussion, gave a dull almost flat note; the line of dulness moving with position of patient. Breath sounds were suppressed; no rales; no tracheal tug. Abdomen was normal except for enlargement of superficial veins. Leucocytes 10,000, differential count not made. In the week or ten days the patient was under observation, temperature and pulse were normal. Cough and dyspnea became steadily worse, and on two occasions the patient was tapped, 300 and 400 c.c. bloody fluid being drawn off, with only very slight relief of symptoms. Adenitis and syphilis were excluded, the diagnosis resting between Hodgkin's disease and mediastinal tumor, in favor of the latter. On account of the urgency of the symptoms, an exploratory operation was performed by Dr. Bloodgood. The tumor proved to be a sarcoma arising probably from the thymus.

The Country Hospital

DR. LAURA E. READING, Centerville: Nothing is more needed at this time in the counties of our state than the establishment of rural hospitals for the treatment of patients at home. More ground can be given in the country, with fresh air and sunshine for disinfectants. Quick relief is salvation, and our farmers cannot afford to lose time from their farms, for with them time is money. There are three reasons for the establishment of country hospitals: to train students; to compel the country physician to be up to date; above all, to give people in the country every facility for prevention of unnecessary suffering.

Infections of the Endometrium

DR. W. S. GARDNER, Baltimore: This paper is based on the study of a number of cases which are known to have been infected. Microscopic examination of the curettings from such cases shows that the reaction of the endometrium to infection is essentially similar to that of other tissues, and that easily recognizable structural changes are often left as a result.

A National Department of Health

DR. J. N. MCCORMACK, Bowling Green, Ky.: At present there is no opposition to the plan of creating a department of health from the head of any existing department except perhaps one. The president is in favor of the plan, and has even promised to send a special message to Congress if necessary. It is questionable whether this legislation will be obtained at this session, in an unchanged form at least. It may be advisable to yield on some points for the present. The project is receiving the support of many lay bodies throughout the country, and it is to be hoped that Maryland will be well represented at the coming hearing on Senator Owen's bill.

(To be continued)

Deaths

Howard Taylor Ricketts, one of the most notable young workers in the field of medical research, died in the American Hospital in the City of Mexico, May 3, from typhus fever, contracted while pursuing investigations regarding the causation of the disease, aged 39.

He received his literary degree from the University of Nebraska, Lincoln, in 1894; and was graduated from the Northwestern University Medical School, Chicago, in 1897. He served as intern in Cook County Hospital from 1897 to 1899 and then continued his research work; was made fellow in cutaneous pathology in Rush Medical College, and in 1889 was made instructor in pathology. During this time he pursued his researches on blastomycosis. In 1902, Dr. Ricketts was made associate professor of pathology in the University of Chicago. His next important work in medical research was regarding the Rocky Mountain spotted fever (tick fever), which occupied his attention for several summers. In 1906, his book on "Infection, Immunity and Serum Therapy" appeared, which has gone through three editions and is a very complete short treatise on the subject. His latest research work was on the causation of typhus fever (tabardillo), which has been epidemic in Mexico for some time past. He was recently appointed professor of pathology in the University of Pennsylvania, and accepted the position with the understanding that he was to be free to continue his researches during the winter, spring and summer.

Dr. Ricketts has been for several years a valued editorial writer on THE JOURNAL and much of his research work has been done under grants made by the Committee on Scientific Research of the American Medical Association.

His society membership included the American Medical Association, the American Association of Pathologists and Bacteriologists, and the Chicago Medical, Clinical and Pathological societies. He was a persistent, untiring and insatiable worker, and to this his illness and death are probably due, as he was worn out when he returned to Mexico in April.

A signal honor was shown Dr. Ricketts' memory when President Diaz of Mexico directed that the professors and students of the National Medical School be present on the occasion of the removal of the body to Chicago, and that the medical school and institute of bacteriology be draped in mourning three days.

HOWARD T. RICKETTS, 1871-1910.

The *Brooklyn Eagle*, in commenting on Dr. Ricketts' illness, stated: "He may thus add one more name to the list of modern martyrs of science who get but a passing thought from the preoccupied people of the United States."

The Chicago *Evening Post*, in an editorial, April 30, before his death, said that Dr. Ricketts "belongs to the small corps of American physicians and scientists who are achieving distinction for their scientific research in the origin and course of disease. Dr. Ricketts represented the universities in this corps, having been associated for several years with the University of Chicago. It would be a great pity indeed if he should be cut off before his promising career had reached even its prime."

The Chicago *Tribune*, May 6, in an editorial entitled "On the Firing Line," said: "The death of Dr. Howard T. Ricketts adds another name to the long honor roll of science. The endless warfare that mankind has fought against ignorance and its child, disease, has claimed another victim, but the fight goes on. Dr. Ricketts left his unfinished investigations to his fellow workers in the field of medical research. But he left something much more precious to his fellow men—the example of a high courage and devotion in the cause of humanity.

"Dr. Ricketts died on the firing line of human progress, and it is inspiring to believe, as we may, that he did not die in vain. Mankind is richer for his living and nobler for his dying."

To the personal friends of Dr. Ricketts the news of his death will bring, to an unusual degree, a sense of personal loss. Quiet, modest, unassuming, he had a singularly lovable disposition and a capacity for friendship beyond the average. The friends of his college days and the intimate associates of his years of teaching and research had anticipated for him a long and brilliant career, and unite in deploring the sudden termination of a life of usefulness and promise.

Oliver Phelps Barber, M.D. Bellevue Hospital Medical College, 1870; for fifteen years surgeon of the Michigan Central Railroad at Saginaw and chief surgeon of the Pere Marquette System; a member of the local pension examining board; police commissioner of Saginaw in 1895; for two years president of the Saginaw General Hospital and surgeon to that institution, St. Mary's and the Woman's Hospital; professor of surgery in the Saginaw Valley Medical College and the Michigan College of Medicine, Detroit; major and surgeon of the Thirty-fifth Michigan Infantry, U. S. V., subsequently division surgeon of the Second Division, Second Army Corps, during the Spanish-American war with service in Cuba; died at his home, April 26, from nephritis, aged 60.

Frederic Tilden Brown, M.D. College of Physicians and Surgeons, New York City, 1880; of New York City; a member of the American Medical Association, New York Academy of Medicine, and American Association of Genitourinary Surgeons; professor of genitourinary diseases in the University and Bellevue Hospital Medical College; attending surgeon to Bellevue Hospital, and consulting surgeon to the Presbyterian, Nassau and Mineola hospitals; is reported to have committed suicide at Bethel, Maine, May 7, aged 56.

Samuel Peachy Latane, M.D. University of Maryland, Baltimore, 1897; a member of the Medical Society of Virginia; for several years resident physician and superintendent of the Johns Hopkins University, Baltimore; and later health officer of Winchester, Va., and recently elected secretary of the Virginia State Board of Health; while making a professional call near Opequon, May 1, was instantly killed by the overturning of his automobile, aged 35.

William F. Barbat, M.D. University of California, San Francisco, 1895; a member of the American Medical Association; formerly secretary of the San Francisco County Medical Society, and assistant secretary of the Medical Society of the State of California; a member of the staff of the Clara Barton Hospital; died in his office in San Francisco, April 24, from the effects of a gunshot wound of the heart, self-inflicted, it is believed, with suicidal intent, while despondent, aged 35.

Andrew Jackson Widener, M.D. American Medical College, Eclectic, St. Louis, 1887; at one time secretary of the Arkansas State Eclectic Medical Board and author of the bill enacted by the last state legislature giving the state medical board power to revoke physicians' licenses for unprofessional conduct; died at his home in Little Rock, April 26, from acute gastritis, aged 52.

Richard Sandford Mallon, M.D. Cornell University, New York City, 1905; a member of the Medical Society of the State of New Jersey; of Paterson; a member of the staff of the Paterson General Hospital and associated with the pathologic department of that institution; died in the hospital, April 27, from acute nephritis, aged 31.

Eugene Hodenpyl, M.D. New York University, New York City, 1885; pathologist of Roosevelt Hospital; who recently

called attention to the necrotizing effects on carcinoma cells of the fluid from a patient who had apparently recovered; died at his home in New York City, May 5, from pneumonia, aged 47.

Hartwell Augustus Sibley, M.D. Bellevue Hospital Medical College, 1878; a member of the Massachusetts Medical Society; a member of the board of health and city physician of Chelsea for twelve years; died at his home in Dorchester, Boston, April 27, aged 60.

Alfred James China, M.D. Medical College of the State of South Carolina, Charleston, 1860; surgeon in the Confederate service during the Civil War; since 1902, president of the First National Bank of Sumter, S. C.; died at his home, April 9, from uremia, aged 72.

John Frost Davis, M.D. Botanico-Medical College of Cincinnati, 1850; for many years a practitioner of Portsmouth, Ohio; died at the Southeastern Orphanage, Baldwin, Ga., of which he had been treasurer for seven years, April 17, aged 81.

James R. Haun (license, registration, Lawrence county, Pa., 1882); a veteran of the Civil War, and a prisoner in Andersonville for ten months; died at his home in Edinburg, April 22, from cerebral hemorrhage, aged 68.

Asa Milner (license, years of practice, Iowa, 1887); for nearly fifty years a practitioner of Marion county, Iowa; died at the home of his daughter in Roulette, N. D., April 21, from hypostatic pneumonia, aged 78.

Jesse J. Carlow, M.D. Western College of Homeopathic Medicine, Cleveland, 1856; for sixty years a practitioner of Gaysport, Ohio; died at his home in that place, April 23, from senile debility, aged 81.

Roland Mitchel, for nearly half a century a practitioner of Pea Ridge, Ark.; a surgeon in the Federal service during the Civil War; died at his home, February 25, from senile debility, aged 83.

Thomas Miller Lewis, M.D. Jefferson Medical College, 1857; a surgeon in the Confederate service during the Civil War; died at his home in White Post, Va., April 12, from diabetes, aged 77.

Jacob E. Hempstead, M.D. Jefferson Medical College, 1906; a member of the Medical Society of the State of New Jersey; died at his home in Paterson, April 23, from pneumonia, aged 35.

William H. Kennedy, M.D. University of Nashville, Tenn., 1857; a member of the legislature from Sanford county in 1872; died at his home in Kennedy, Ala., April 24, aged 84.

Raymond H. Koch, M.D. Medico-Chirurgical College of Philadelphia, 1907; formerly of Easton, Pa.; died at his home in Martin's Creek, Pa., April 27, from diphtheria, aged 26.

James W. Long, M.D. Cincinnati College of Medicine and Surgery, 1861; died at his home in Madisonville, Ky., April 26, from senile debility, aged 74.

E. George Stratton, M.D. Detroit Medical College, 1888; died at his home in Oakland, Cal., April 24, from the effects of an overdose of cocain, aged 42.

Charles Lewis French, a practitioner of California, for forty-five years; died at his home in Lakeport, Sept. 4, 1909, from arteriosclerosis, aged 77.

David N. E. Brown, from 1855 to 1895, a practitioner of medicine; died at his home in Butler, Ind., March 31, from arteriosclerosis, aged 78.

Oliver Loftin, M.D. University of Pennsylvania, Philadelphia, 1850; died at his home in Tyler, Texas, April 9, from bronchitis, aged 81.

Thomas Edward Stack, M.D. University of Dublin, Ireland, 1876; died at his home in Powell, Neb., April 22, aged 54.

James A. Kirkpatrick, M.D. Nashville; died at his home in Johnson City, Tenn., in January, from nephritis, aged 64.

Marriages

CARL L. WATSON, M.D., Boston, to Miss Eva Bartlett Macey of Somerville, Mass., recently.

ELMER D. TWYMAN, M.D., Independence, Mo., to Miss Leda Allen of Dallas, Texas, recently.

CARL MILLER SNEED, M.D., Columbia, Mo., to Miss Katherine Ruby Robb of Montreal, Que., April 20.

EDWIN RACELLE RASELEY, M.D., Uniontown, Pa., to Miss Edith Brearley Flack, at Baltimore, April 26.

WILLIAM KENNETH TURNER, M.D., New Bedford, Mass., to Miss Emma Antoinette Bolduc of Boston, April 25.

JOSEPH SEYMOUR RAMBO, M.D., Chandlersville, Ohio, to Miss Catherine Frazier Cochrell of Philo, Ohio, April 26.

MATTHEW COTTON DARNELL, M.D., Duckers, Ky., to Miss Ermina Jett of Frankfort, Ky., at Grassy Springs Church, April 27.

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of April, 1910:

ALABAMA

Bell, S. B., Ozark.
Searcy, H. B., Tuscaloosa.

ARIZONA

Canby, C. B., Golconda
Watkins, W. W., Phoenix.

ARKANSAS

Hudson, T. F., Luxora.
Rowell, F. C., Hensley.

CALIFORNIA

Chapline, Frank, Orange.
Gleason, C. D. R., San Francisco.
Harris, J. B., Sacramento.
Hill, W. B., Long Beach.
Horn, Henry, San Francisco.
Howe, R. C., Colton.
Hull, F. E., Los Angeles.
McCoy, G. W., Los Angeles.
Newell, Edward, San Jose.
Simonds, P. E., Los Angeles.
Stanchfield, S. C., Los Angeles.
Tebbetts, H. B., Los Angeles.
Tourtillatt, W. W., Lindsay.

COLORADO

Clarke, E. A., Canon City.
Fraser, Margaret E. V., Denver.
Pratt, Elsie S., Denver.
Rich, W. F., Pueblo.

CONNECTICUT

Elmes, F. A., Derby.

DISTRICT OF COLUMBIA

Williams, T. A., Washington.

FLORIDA

Steen, A. M., Palatka.

GEORGIA

Simmons, J. W., Jr., Brunswick.

IDAHO

Falk, Ralph, Boise.
Hoyt, J. E., Kendrick.

ILLINOIS

Alexander, J. S., Chicago.
Amerson, W. H., Chicago.
Applewhite, L. D., E. St. Louis.
Barth, H. N., Rockford.
Bing, E. A., Altamont.
Brown, C. E., Chicago.
Bushnell, C. H., Chicago.
Chapman, F. A., Sigel.
Churchill, J. F., Chicago.
Cleverdon, Kate, Chicago.
Collier, Wm., Chicago.
Curry, A. B., Bloomington.
McDonnell, Elizabeth J., Chicago.
Evertz, Matthew, Chicago.
Faulkner, Louis, Chicago.
Fletcher, F. D., Chatham.
Fortune, H. C., Literberry.
Hall, W. S., Chicago.
Hanson, Joseph, Chicago.
Johnston, Theodore, Chicago.
Kelly, P. E., Chicago.
Kleruff, L. A., Chicago.
Kobisk, F. R., Lombard.
Koll, I. S., Chicago.
Linder, L. J., E. St. Louis.
McKee, C. W., Chicago.
Molnar, Helen B., Chicago.
Oliphant, Lizzie W., Chicago.
Porteus, R. W., Chicago.
Reed, C. H., Chicago.
Ruppert, G. F., Elgin.
Schinkelberger, P. C., Chicago.
Schrager, V. L., Chicago.
Skaggs, C. S., E. St. Louis.
Smith, H. S., E. St. Louis.
Statkiewicz, W., Chicago.
Stogol, J. B., Chicago.
Swan, C. J., Chicago.
Teter, D. P., Chicago.
Thackeray, W. T., Chicago.
Thompson, G. F., Chicago.
Thorsgaarde, K. L., Chicago.
Tobia, Emilio, Chicago.
Toler, T. W., Astoria.
von Toll, Edward, Chicago.
Walker, H. S., Chicago.
Woodyatt, R. T., Chicago.

INDIANA

Castello, H. F., Decatur.
Ford, J. H., Indianapolis.

IOWA

Brisbine, R. E., Atalissa.
Dewey, W. H., Moville.

KANSAS

Church, Mary V., Topeka.
Davis, A. M., Chanute.
Davis, D. H., Independence.
Ekblad, V. E., Scandia.
Greenfield, Sara E., Topeka.
Grigsby, C. E., Coffeyville.
Lytle, C. R., Durham.
McIlhenny, R. A., Conway Springs.
Righter, W. H., Topeka.
Taylor, O. A., Topeka.
Worley, J. F., Emporia.

KENTUCKY

Barnett, A. M., Louisville.
Gribble, B. G., Louisville.
Gibson, T. T., Shamrock.
Guthrie, H. S., Louisville.
Lester, W. H., Dublin.
Long, R. W., Madisonville.
Prather, S. S., Louisville.
Tate, L. A., Hopkinsville.
Threlkeld, A. E., Wheatley.
Travis, D. J., Eddyville.
Wyatt, I. L., Buffalo.

LOUISIANA

Caine, A. M., New Orleans.
Devron, J. A., New Orleans.
Gray, B., Colfax.
Guthrie, J. B., New Orleans.
Mioton, S. F., New Orleans.
Points, J. F., New Orleans.
Weaver, W. H., McDonoghville.

MAINE

Bolster, W. W., Lewiston.
Ferren, F. L., Cumberland Mills.
Larrabee, E. G., Hebron.
Stewart, J. M., So. Paris.
Trufant, L. H., Norway.

MARYLAND

Duke, W. W., Baltimore.
Simon, C. E., Baltimore.
Thieme, G. C., Baltimore.

MASSACHUSETTS

Johnson, F. E., Erving.
Peirce, A. H., W. Newbury.
Stone, G. H., Clinton.

MICHIGAN

D'Arcy, Benjamin, Mayville.
Gregory, M. S., Traverse City.
Helkie, W. L., Three Oaks.
McIntyre, J. E., Lansing.
Minor, E. B., Traverse City.
Obetz, H. L., Detroit.
Seidel, T. D., Reed City.
Spoor, A. A., Big Rapids.
Stafford, C. M., Detroit.
Turrell, C. M., Yale.
Wells, R. E., Traverse City.

MINNESOTA

Bloom, C. J., Lake Park.
Daines, Edith G., St. Paul.
Hoffmann, J. L., Elbow Lake.
Hunt, H. E., St. Paul.
Kierland, P. E., Mahnomen.
Melby, Benedik, Blooming Prairie.

Robertson, H. E., Minneapolis.
Sanderson, E. T., Minneota.
Walters, F. R., Moose Lake.
Will, W. W., Bertha.

MISSISSIPPI

Brookshire, J. L., Hushpuckena.
Parvis, J. B., Laurel.
Temeh, C. H., Scatabia.
Waldauer, Joseph, Vicksburg.

MISSOURI

Alexander, R. D., St. Louis.
Axline, J. T., St. Louis.
Barclay, Robert, St. Louis.
Baron, Jules, St. Louis.
Bauer, C. E., St. Louis.
Brandon, J. P., Essex.
Diggers, W. L., New Madrid.
Fakes, J. D., LaForge.
Feinstein, L. A., St. Louis.
Fronske, M. G., St. Louis.
Fuhrmann, R. H., St. Louis.
Goodman, D. C., St. Louis.
Gosney, C. W., Kansas City.
Gray, R. Q., St. Louis.
...ngen, W. M., St. Louis.
Hauser, H. A., St. Louis.
Harris, D. L., St. Louis.
Henschel, Edward, Winona.
Hyndman, C. E., St. Louis.
Ig, Theodore, St. Louis.
Jenkins, J. M., St. Peters.
Kerwin, W., St. Louis.
Kitchen, W. B., Glasgow.
Koetter, A. F., St. Louis.
Komzelman, P. R., St. Louis.
Kreeger, G. B., St. Louis.
Kuper, G. H., St. Louis.
Lingenfelder, Julius, St. Louis.
Meyer, H. H., St. Louis.
Mills, R. W., Webster Groves.
Moore, O. T., St. Louis.
Neer, E. D., St. Louis.
Nutman, L. J., St. Louis.
Powell, I. W., St. Louis.
Quigg, H. D., Marshall.
Reder, Francis, St. Louis.
Reid, Florence J., Kirksville.
Rice, D. F., St. Louis.
Shahan, W. E., St. Louis.
Shanklin, B., St. Louis.
Sharpe, J. B., Senath.
Smith, W. M., Springfield.
Spain, Kate C., St. Louis.
Tooker, C. W., Jr., St. Louis.
Trask, C. D., Kansas City.
Tuttle, G. M., St. Louis.
Von Schrader, A., St. Louis.

NEBRASKA

Anderson, D. F., Edgar.
Brown, H. R., Daykin.
Kalar, Sara Blaine, Bloomfield.
Pickens, E. A., Benkelman.
Tayman, E. M., Cozad.
Way, F. E., Wahoo.

NEVADA

Swezy, C. E., Winnemucca.

NEW HAMPSHIRE

Sargent, F. H., Pittsfield.

NEW JERSEY

Bleick, T. E., Newark.
Bonynge, H. A., Ridgewood.
Carroll, W. H., Passaic.
Marman, H. M., Frenchtown.
Kensinger, W. H., Camden.
Perkins, J. L., Cranford.
Ramos, N. L. E. Orange.
Rauschenbach, P. F., Patterson.
Rose, W. W., Newark.
Warncke, F. H., Elizabeth.
Woods, A. L., South River.
Zehnder, A. C., Newark.

NEW MEXICO

Colbert, J. W., Albuquerque.
Miller, C. A., Tularosa.

NEW YORK

Agnelli, S., New York City.
Andrew, J. H., Brooklyn.
Batten, B. E., Corning.
Bissell, W. G., Buffalo.
Borzilleri, C. R., Buffalo.
Bowen, D. R., Rome.
Brown, A. B., Auburn.
Carpenter, C. A., Bedford.
Cook, F. H., Middletown.
Coborn, Josiah, Hopewell Junction.
Erdman, Seward, New York City.
Foster, N. B., New York City.
Gillen, H. B., Cohoes.
Harnden, Frank, Brooklyn.
Heston, E. H., Arlington.
Hutton, Lefferts, New York City.
Kibbe, E. J., Rochester.
Knowlton, F. P., Syracuse.
Krug, E. F., New York City.
Leopold, J. S., New York City.
Lewis, M. B., Sag Harbor.
Lindeman, H. E., New York City.
Lombardo, Melchiore, Brooklyn.
Massey, M. L., Buffalo.
Mellor, L. R., Syracuse.
Mislig, Michael, New York City.
Needham, G. G., New York City.
Neil, James, New York City.
Paul, G. P., Round Lake.
Peart, W. A., Sanborn.
Pentlarge, V. H., Brooklyn.
Potter, Marjory J. M., Niagara Falls.
Power, W. T., New York City.
von Raltz, Feodor, New York City.
Regester, Hyatt, Buffalo.
Roof, S. W., New York City.
Root, Mary P., Millbrook.
Rose, J. T., Brooklyn.
Schoonmaker, Hubert, Clifton Springs.
Strong, F. R., Brewerton.
Thompson, E. M., Brooklyn.
Tweddell, Francis, New York City.
Valanti, F. A., Buffalo.
White, G. S., Yonkers.
Winters, W. P., Geneva.
Wood, W. B., Tannersville.
York, Margaret M., Flushing.

NORTH CAROLINA

Baynes, R. S., Hurdle Mills.
John, Peter, Lattimburg.
Mariner, N. B., Belhaven.
Taylor, D. T., Washington.
Thornton, Irene, Fayetteville.

NORTH DAKOTA

Christensen, Walter, Lidgerwood.
Hedding, J. A., Hope.
King, F. J., St. Thomas.
Lindner, E. R., Egeland.
Lorvenen, F. C., New Salem.
Plourde, W. A., Overly.
Steele, D. C., Fairmount.
Swarthout, E. F., Streeter.
Swenson, A. W., Bisbee.
Wheeton, F. E., Minot.

OKLAHOMA

Ballantine, H. T., Muskogee.
Booth, G. R., LeFlore.
Curd, W. E., Copan.
Rogers, C. J., Muskogee.
Sanger, Winnie M., Oklahoma.
Smith, R. V., Guthrie.
Williams, J. C., Stroud.

OHIO

Bauer, A. C., Cincinnati.
Butler, R. H., Bellefontaine.
Coate, C. R., Laura.
Cook, H. J., Cincinnati.
Dexter, Richard, Cleveland.
Doughty, W. M., Cincinnati.
Gardner, D. S., Massillon.
Harding, B. F., Mansfield.
Lamb, F. H., Cincinnati.
Marquart, O. M., Springfield.
May, R. J., West Salem.
McKesson, E. I., Toledo.
McPherson, C. G., Xenia.
Minnig, Arnold, New Philadelphia.
Mussey, R. D., Cincinnati.
Nuss, W., Cleveland.
Patterson, L., Lebanon.
Peterka, Edward, Cleveland.
Prunty, E. J., Belpre.
Rabe, J. W., Akron.
Rea, E. H., Avondale.
Schlesinger, W. A., Cleveland.
Shank, R. R., Trotwood.
Shaw, J. H., Cincinnati.
Smith, L. B., Youngstown.
Stevenson, J. W., Cincinnati.
Stillman, G. B., Deerfield.
Tachauer, Albert, Columbus.
Tangeman, C. W., Cincinnati.
Weib, Dudley, Cincinnati.
White, W. W., Ravenna.
Willey, A. J., Delaware.

OREGON

Bellmer, G. C., Salem.
Brostus, F. C., Hood River.
Culin, Walter, Coquille.
Evans, J. C., Salem.
Fields, R. H., Gardiner.

PENNSYLVANIA

Boice, J. M., Philadelphia.
Cavill, F. T., Jessup.
Cramer, M. J., Monessen.
Crow, S. C., South Sharon.
Dearth, W. A., Pittsburg.
DeLong, F. E., Annandale.
Donaldson, A. B., Bala.
Francis, T. R., Connellsville.
Gurley, L. M., Johnstown.
Hassell, H. W., Philadelphia.
Heimer, L. B., Philadelphia.
Hemminger, E. F., Meyersdale.
Jackson, O. H., Meadville.
Kaufman, A. S., Philadelphia.
Kennedy, D. D., Pittsburg.
Klopp, E. J., Philadelphia.
Lapenta, V. A., New Castle.
Magee, D. M. P., Cynwyd.
McCready, J. H., Pittsburg.
Messmore, J. L., Masontown.
Morgan, D. W., Auburn.
Nisbet, F. L., Meadville.
Piersol, G. M., Philadelphia.
Potts, W. J., Greensburg.
Proescher, Frederic, Pittsburg.
Russell, R. K., Bradford.
Schmatterly, L. W., Freeport.
Shaffer, C. L., Jenners.
Shumaker, E. K., New Bethlehem.
Thompson, C. W., Meadville.
Thompson, R. W., McKean.
Williams, E. C., Port Trevorton.
Williams, J. A., Pittsburg.
Zimmerman, G. L., Lehmasters.

RHODE ISLAND

Simpson, G. E., Cranston.
Squire, A. F., Newport.

SOUTH CAROLINA

Anderson, J. L., Greenville.
Crafton, J. N., Colliers.
Howle, T. E., Hartsville.
Jervey, A. J., Charleston.
Pope, T. H., Kinards.
Sanders, R. L., Anderson.

SOUTH DAKOTA

Long, Martin, Custer.
Stegeman, S. B., Pierre.

TENNESSEE

Cullum, J. M., Fayetteville.
Green, J. R., Springfield.
Jones, J. H., Garbers.
Lovell, A. L., Graysville.
McDonald, J. T., Monroe.
Nichols, J. O., Etowah.
Richardson, R. M., Normandy.
Teas, J. J., Waverly.
Tucker, B. G., Nashville.

TEXAS

Allen, J. I., Bloomburg.
Beddoe, A. F., Dallas.
Berkeley, B. F., Cupine.
Bibb, L. B., Austin.
Brown, C. P., El Paso.
Burt, J. D., Farmersville.
Campbell, C. A. R., San Antonio
Clark, L. E., Ennis.
Dupree, W. A., Colorado.
Freeman, W. H., Lockney.
Fulcher, R. L., Blanco.
Fuller, M. L., Bradshaw.
Gallaway, A. H., Jr., Laneville.
Hanson, D. T., Amarillo.
Headley, A. M., Rio Grande City.
Inmon, E. H., Emma.
Jackson, L. B., San Antonio.
Lancaster, E. H., Houston.
Lee, W. R., Texarkana.
McCardell, Douglass, Cold Spgs.
McCloud, T. C., Bryson.
Myers, R. E., Kemp.
Newman, A. M., Canadian.
Patton, W. D., Amarillo.
Town, Col. F. L., San Antonio.

UTAH

Ashley, R. W., Salt Lake City.
Sprague, H. B., Salt Lake City.

VERMONT

Blaisdell, E. G., Bridport.
Blanchard, J. F., Newport.
Hemingway, I. E., Manchester.
Welch, R. E., Franklin.

VIRGINIA

Meade, E. W., Castlewood.
Saunders, C. H., Chase City.
Strother, P. M., Scottsville.
Sturgis, W. J., Franktown.
Thornton, R. P., Republican Grove.

WASHINGTON

Anderson, E. M., Spokane.
Burns, A. E., Seattle.
Eldridge, J. L., Snohomish.
Hards, H. J., Tacoma.
Perkins, M. H., Tacoma.
Sawins, A. H., Spokane.
Wilson, C. S., Tacoma.

WEST VIRGINIA

Bowles, W. C., Milton.
Burgess, W. H., Williamson.
Mooman, Glenn, Petersburg.
Morrison, L. C., Hurricane.
Motley, J. C., Hinton.
Stroud, C. G., Erbacon.

WISCONSIN

Arveson, R. G., Frederic.
Borden, F. R., Plainfield.
Lemmer, G. N., Spooner.
McCarthy, G. W., Athens.
Rose, J. F., Lena.
Ross, H. R. T., Ladysmith.
Spencer, G. F., Evansville.
Sullivan, A. G., Madison.
Vaughan, Claude Caroline.
Weber, A. J., Milwaukee.

WYOMING

Wiseman, Letitia, Cheyenne.

HAWAII TERR.

West, T. J., Makaweli.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Memorial on Behalf of the American Medical Association in Relation to Senate Bill (S. 6049) Establishing a Department of Public Health, and for Other Purposes

APRIL 26, 1910.—REFERRED TO THE COMMITTEE ON PUBLIC HEALTH AND NATIONAL QUARANTINE AND ORDERED TO BE PRINTED

To the honorable the Senate and House of Representatives in Congress assembled:

On behalf of the American Medical Association, an organization representing 76,000 physicians, embracing every state and territory in the United States, I respectfully submit for the consideration of Congress the following reasons why a department of public health rather than a bureau should be established:

Bureaus have existed for a hundred years, and every effort made to secure such a department as would adequately protect the health and lives of the people during the last forty years has been met with the proposition, now in the minds of

some, to enlarge the powers of some existing bureau. (See report of the Walcott Commission, Exhibit 1, herewith.)

Eight of nine secretaries employ medical men. All of the departments have medical and sanitary problems which they are called on to and must solve.

The War and Treasury departments are now crossing and duplicating the work of each other in Porto Rico, Cuba, Panama, the Philippines, and not long since in California.

The Army, Navy, Treasury and Agricultural departments all have large and important laboratories devoted to medical and sanitary problems.

The War and Navy departments each has a medical school for its officers, and the Treasury should have one unless there is to be a department of health, in which event they might all be consolidated in the interest of both efficiency and economy. The War, Navy and Treasury departments each has hospitals in the more important centers of the United States. Each has a tuberculosis hospital; each has a leprosy hospital.

The Department of Justice gives all legal advice and service to every other department. (See Rev. Stat., secs. 187, 189, 360, 361, 362, 363, 364, and 365.) The secretary of health should in the same way provide for all medical and sanitary advice and service, be responsible for all men so employed, and detail them to advise and assist other departments as they may be required. This department should also provide for all expert medical and sanitary testimony required by other departments or United States courts.

There should be one authoritative department for all official information on sanitary and medical matters, so as to lead to a definite governmental policy, making it possible for all who are charged with official responsibility to act under definite law and departmental ruling.

This central department of official sanitary and medical opinion should have the power, and should be required by law, to advise and assist all other departments in the solution of sanitary and medical problems.

Individually the present bureaus and other sanitary and medical agencies perform their ordinary functions satisfactorily, but with such lack of cooperation as greatly to mar results, while in the emergency of epidemics or in dealing with vast interests where the strain of commercial pressure falls on them they almost uniformly fail or are greatly crippled in their sanitary functions. This is the history of even so strong a movement as that of the enforcement of the Food and Drugs Act. It is the history of the Public Health and Marine-Hospital Service of the Treasury Department, and it must and will be the history of any bureau or agency employed for health service whenever it is a minor function in any great commercial department; or, in other words, until the day comes in which there shall be a department whose sole purpose and responsibility is for the health and life of the people, and in which all these varied health agencies can be collected and coordinated.

The following agencies should be transferred to the proposed department of health:

Treasury Department: Public Health and Marine-Hospital Service; medical officers of the Revenue-Cutter Service.

Agricultural Department: Chemistry Division in all that pertains to the purity of human food and drugs; meat-inspection service of the Bureau of Animal Industry; those engaged in the study of human disease in the Biological Division.

Department of Commerce and Labor: Hospitals of the Immigration Bureau; Division of Population, after the compilation of the Census of 1910, and in time for the Census of 1920; the medical officers of the Coast and Geodetic Survey.

Interior Department: Physicians of Indian schools and agencies; physicians of the Alaskan school service; physicians of the United States Reclamation Service; hospitals and medical attendants of the United States National Homes for Old Soldiers; the medical examiners, etc., of the Pension Bureau; the Government Hospital for the Insane; the Freedmen's Hospital.

Department of Justice: Physicians and oculists employed at United States penitentiaries.

Department of State: Foreign hospitals under subsidy; the International Sanitary Bureau.

The War and Navy departments have not been included as the opinion largely prevails that these military functions should not come under a civil bureau.

The department should provide for the medical attention to be given and the sanitary precautions which should be taken in the Philippines, Porto Rico, Hawaii, Panama, and all other lands which are under the exclusive jurisdiction of the United States, and for special study of the problems peculiar to each of them.

A very large part of the work of such a department will of necessity be, acting and cooperating always with and through the state and local boards of health, the investigation of causes, methods, of spread and prevention of tuberculosis, pneumonia, influenza, typhoid fever, cancer, measles, diphtheria, scarlet fever and other common domestic pestilences which cause such a large part of the sickness and mortality of every community. To be effective this scientific research work should be continuous, and on such a scale as is only possible under national authority. Interstate pollution of rivers and water supplies would need to be carefully studied, with the view of prevention, involving the great problem of sewerage and drainage.

Studies would need to be made and railroads instructed as to the sanitation of moving trains engaged in interstate traffic, especially as to the ventilation, heating, and water supply of sleeping cars and other coaches, the best methods of preventing the pollution of the track over which they pass and the stations at which they stop.

The results of these investigations and of all similar matters will have to be communicated to the people, and to be most effective this will require the cooperation of the educational agencies of the Government and the states, as none can reach the people like the teachers of the primary and higher schools, colleges, and universities. The department would also prepare leaflets for the use of the local authorities and for the information of the people, as the Agricultural Department now so well does as to the affairs within its domain.

Therefore provision should ultimately be made to include within this department all the educational agencies of the United States, for the reason that their work is more allied to this department than any other, and especially as they have to deal with those who are in the formative and impressionable period of life and would be most benefited by such life-saving knowledge.

It should be made clear that the department would have no authority to act in intrastate matters, except upon request and in cooperation with state authority, along the lines which now exist between the Agricultural Department and the states. It should be made equally clear that in dealing with interstate and foreign matters it shall be supreme.

Those associated with me by no means undervalue the work now being done under existing health agencies at Washington, and it is not intended that what is here said shall be so construed. Scattered, operating under indefinite or conflicting laws or regulations, comparatively lost in departments created for other purposes, and under chiefs little interested and sometimes not in sympathy with their work, they deserve commendation instead of criticism for what they have done under great difficulties. Nor do we overlook the fact that some states and municipalities are doing admirable work along these lines and that all of them are doing something. But when it is remembered that 600,000 people die and 3,000,000 more are seriously sick every year from causes which are distinctly and practically preventable, bringing sorrow and expense to thousands of homes often least able to bear the latter, and lowering vitality and efficiency beyond the conception of those who have not made a study of the subject, it is not to be wondered at that educators, business men, labor leaders, and men and women in all the walks of life have joined in the plea so long made in vain by the medical profession that the health and life of human beings, by far the greatest asset of the nation, shall at least have as much protection from the National Government as is now so properly and generously provided for domestic animals.

Such a department as we ask you to create, with its corps of trained experts, would be engaged every day in every year in such duties as investigating the cause and prevention of cancer without waiting for a special message from the President; in the extermination of hookworm in Porto Rico and in the states without a plea from Mr. Bryan or a donation from a great captain of finance; the suppression of influenza, a great menace to national health; and in the solution of a hundred other similar

problems which are of such scope that the work must be done by the central government or not at all. In view of the recent great increase in the cost of living, which many believe is permanent, and of the common saying, which is probably as true as it is trite, that "the average American family wastes more than would maintain the average European family" for lack of definite information, a practical study of food values and of the most nutritive preparation of food should be given a like prominence to that now so well and ably given to adulteration by Dr. Wiley.

Acting through existing state and local authorities and at relatively small expense, such a department would gather the facts as to the cause and location of every case of sickness and death which occurs in this country, classify, study, and in diagrammatic or other easily understood way put them in every school and home, certainly a warning service of equal value to that conducted by the Weather Bureau. Under such a coordinated system, which is believed to be entirely practicable, the nation, states, municipalities, and counties, each working within its own sphere but in cooperation, and especially with the aid of educators, to make such health and life-saving knowledge a part of the warp and woof of every child, it would be only a question of time until the benefactions of now existing and greatly extended modern science would be placed within the reach of every hearthstone.

To meet the criticism of those who may find it difficult to understand the altruism back of this movement it may be proper to say in conclusion that no one leading in it has any aspirations or ambitions to serve or is in position to or would accept any place in such department if created. Further, in so far as doctors succeed in preventing disease they diminish their own income, this being probably the only vocation which has for years consistently and persistently advocated legislation looking to its own elimination. Subordinated bureaus have failed, and, in the very nature of the vast problems and interests involved, must always fail to meet the needs of such a country as ours; and in the light of this history and supported by the opinion of thousands of disinterested men who have made this subject their life study we urge the creation of such a department as will enable our nation to lead the world in public health work, as it is already doing in so many other ways.

J. N. McCORMACK.

Representative of the American Medical Association.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—First Weekly Meeting

SUBJECT FOR THE MONTH: THE PSYCHONEUROSES
NEURASTHENIA

ETIOLOGY: Age, sex, race, debilitating conditions in parents, occupation, physical and mental stress, excesses, trauma, acute illness, chronic diseases.

SYMPTOMS: Essential Symptoms (Charcot): Headache, backache, gastrointestinal atony, neuromuscular weakness, cerebral depression, mental irritability and insomnia. Clinical forms, cerebral, spinal, cardiovascular, gastric and sexual.

MOTOR SYMPTOMS: Muscular weakness, tremor, twitchings, increased reflexes.

SENSORY DISTURBANCES: Fatigue, headache, backache, tender spine, paresthesias.

DISORDERS OF SPECIAL SENSES: Sight, hearing, smell and taste.

GASTROINTESTINAL DISORDERS: Indigestion, constipation, flatulence, etc.

CIRCULATORY DISTURBANCES: Palpitation, rapid pulse, vasomotor disorders.

GENITAL DISORDERS.

MENTAL DISTURBANCES: Mental asthenia, loss of memory, depression, nosophobias.

INSOMNIA.

DIAGNOSIS: Hysteria, petit mal, tabes, general paresis.

REFERENCE BOOKS FOR THE TENTH MONTH

Church and Peterson: Nervous and Mental Diseases.
Dana: Nervous Diseases. Savill: Neurasthenia.
Pearce: Nervous Diseases. Janet: Hysteria.
Mettler: Nervous Diseases. Turner: Epilepsy.
Spratling: Epilepsy and Its Treatment.

Book Notices

THE PRACTICE OF SURGERY. By Walter G. Spencer, M.S., Surgeon and Lecturer on Surgery, Westminster Hospital, and George E. Gask, F.R.C.S., Assistant Surgeon and Demonstrator of Practical Surgery, St. Bartholomew's Hospital. Cloth. Price, $5.50 net. Pp. 1,234, with 707 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This is the tenth edition of a work originated by the late W. J. Wolsham, with such extensive changes by the new authors that it is practically a new treatise. It is a compact, and as fairly complete a work as could well be condensed into one volume, covering surgical pathology and operative surgery. It has in its discussions of pathology much of the thoroughness which makes some of the German treatises so valuable, and, in the parts on operative indications and technic, the brevity, completeness and clearness which characterize English and American works. The arrangement of subjects is neither wholly anatomic nor wholly by regions, but a compromise, the blood-vessels, nerves and muscles, and bones and joints each occupying separate chapters. The rest of the book is arranged by regions, *i. e.*, extremities, head, spine, neck, chest, abdomen, stomach, intestines, etc., each division forming a complete article. In some departments the material has been condensed almost too much, as in the short sections on hernia and goiter.

The book has been brought well down to the present year in pathology and operative practice, including the various serum reactions, radium therapy, cystoscopy, ureteral surgery, and the newer methods in intestinal suture. The writers often omit credit to foreigners in describing their methods, a fault of which French and German authors are equally guilty. Mr. Gask has contributed a chapter on hematology and many valuable plates and photographs, mainly from specimens in St. Bartholomew's Hospital. Besides some 700 illustrations in the letter-press, there are 48 full-page colored plates and skiagraphs. Among the other plates are several showing gross sections of renal tumors photographed in colors, and one in colors showing the local curative effect of radium applied to a facial nevus.

MY PERSONAL EXPERIENCE WITH TUBERCULOSIS. By Will M. Ross, Stevens Point, Wis. Paper. Price, 50 cents. Pp. 64. 1910.

This little brochure is full of practical information for the lay reader about tuberculosis and how the victim of the disease should go about it to be cured. The author, from practical experience, has a most intelligent conception of the subject and presents it in an intelligible way, stating the direct and indirect causes, how to recognize them, gives proper caution about fake cures and fake treatment, recognizes that the open-air and good food treatment is the proper one, emphasizes the value of rest, cautions the victim about the use and abuse of exercise, gives an excellent diet list, shows the value of living by schedule, tells of things to be avoided, sets out the necessity for preventive measures, the care of the sputum, warns against the dangers of the convalescent stage, which he says is the most difficult stage, and says that at least five years of careful regimen should be observed before considering oneself cured. We have seen no more practical or more sensible pamphlet from a layman than this and none of more educational value in the fight against tuberculosis.

THE BACTERIOLOGIST'S AID TO MEMORY (A HANDY REFERENCE SHEET FOR THE LABORATORY). By J. W. S. Seccombe, M.R.C.S., Captain, Royal Army Medical Corps. Paper. Price, 3 shillings 6 pence. London: John Bale, Sons, and Danielsson, Oxford House, 83 Great Titchfield St., Oxford St. W.

This is a large sheet, 3¼ by 3¾ feet, on which are recorded the cultural characteristics on a large number of media, the morphology, the reaction to Gram's stain and miscellaneous properties of thirty-nine different bacteria. Brief remarks

are added on the *Amœba dysenteriæ*, Leishman's body and the trypanosomes. Spaces are also left blank, presumably for the addition of the results on other media. Although the chart is not asserted to be exhaustive, omissions of certain phenomena, like the reaction of the staphylococci, streptococci and other organisms to the Gram stain, make it less useful. The convenience, however, of having the large number of characteristics of the more common organisms on one large page will undoubtedly appeal to most laboratory workers.

SOME COMMON REMEDIES AND THEIR USE IN PRACTICE. By Eustace Smith, M.D., Fellow of the Royal College of Physicians. Cloth. Price, $1.25 net. Pp. 112. New York: Paul B. Hoeber, 1910.

This little book treats of the clinical use of such common drugs as tartar emetic, oil of turpentine, iron, the alkalies, opium, sodium salicylate and some antispasmodics. While not denying the superiority of the newer methods of treatment in various troubles, the author emphasizes the fact that in the remedies named we have sure weapons for fighting many of the conditions with which the practitioner comes in contact daily, and that more study and attention should be given to their clinical use. For these drugs many uses are given which are not mentioned in the ordinary text-book and which are at variance with the usual conception of their use in certain instances. The book contains clinical observations of value, and suggests a more careful study of common remedies.

Medicolegal

Sufficient Evidence of Publicly Professing to Practice Medicine

The Supreme Court of Iowa says, in the case of State vs. Yates (124 N. W. R. 174), that one witness testified that the defendant said he was healing the sick and curing people. Another witness said that he applied to the defendant for treatment for an arm injured by a severe fall on the sidewalk, and was told by the defendant: "Take off your coat, and I will cure you, and it will be all right when you leave here," after which the defendant worked at him for twenty minutes. A third witness testified that he got acquainted with the defendant at a boarding house, and heard him talk with people about the business he was in: "He talked about treating people. He told that he rubbed people and cured them. He said that he was treating people any place he went. He did not say how many people he treated, nor name, nor describe the treatment he gave his patients." This witness said that he applied to the defendant for treatment, and was told that he (the witness) "had a healing in his throat," which the defendant rubbed, and said he could relieve. The defendant gave him treatments, but he got no relief. Subsequently, in regard to payment, the defendant told this witness that he was in the habit of charging $5 for three treatments. The witnesses who testified to being treated said that the defendant did not use medicine or surgical instruments. The court thinks that there was enough evidence to sustain a conviction for publicly professing to practice medicine and to cure and heal within the general rule stated by this court in State vs. Heath, 125 Iowa, 585.

Duty of Injured Person to Prevent Accumulation of Damages

The Supreme Court of Alabama says, in Birmingham Railway, Light and Power Co. vs. Anderson (50 So. R., 1021), a personal injury case brought by the latter party, that, in general, it is the duty of one injured by the negligent act of another to exercise an ordinary degree of care and prudence to prevent the accumulation of damages. Where his injuries are personal, he is bound to take such care of them as a reasonably prudent person would in like circumstances, and can only recover such damages as would have been sustained had such care been taken. He must employ such medical or surgical aid as ordinary prudence would require under the circumstances. If the contention is that his injury was aggravated by negligence, the burden is on the defendant to show that fact in mitigation of damages.

If the injured person resorts to medical or surgical aid, consulting such a physician or surgeon as a reasonably prudent man would, and follows the treatment prescribed, certainly he discharges every duty he owes to the wrongdoer. Whether the duty rests on one who has suffered personal injury to submit himself to a surgical operation for the purpose of effecting a cure, and thus limiting damages, must depend on his judgment exercised in good faith.

The court thinks that a correct and reasonable rule for such cases is stated in Blate vs. Third Avenue Railroad Company, 44 App. Div. 163, 60 N. Y. Supp. 732, where it is said: "While the person who inflicts the damage has the right to say that sure and safe means to diminish the evil results of the accident must be used, that is the extent of his right. Whether further means should be resorted to is for the plaintiff to determine. In making that determination the plaintiff has the right to consider the nature of the means used to effect a cure and the possible or probable effect on himself. He has to determine for himself whether he is to resort to those means in view of those considerations." And further: "The jury, in getting at the damages, are to say, not only what they are, but whether the means used by the plaintiff to reduce the damages were such as an ordinarily prudent man would use. They cannot say that he should or should not have taken the advice of any particular physician, nor that he should have obtained any particular kind of treatment."

A requested instruction of the jury was correct which charged them that it was the duty of the plaintiff not to aggravate his injuries by his own neglect, and to use reasonable care to cure his injuries.

Sufficiency of Contract to Pay Physician—Visiting List as Evidence

The Supreme Court of Mississippi says that in Hardenstein vs. Brien (50 S. R., 979), a suit by a physician against an administrator of the estate of a Mrs. Harper, deceased, one witness testified that Mrs. Harper said that she had paid the physican nothing for services for about 16 or 18 years previously, but that in the last illness, running over many months, he had come to see her so often by day and night, any hour in the night he was sent for, that he must be paid for this; that the obligation was too great to be passed over. Another witness testified that one day she said to him that she wanted to pay him something for his services, as he had been good and kind to her, and said to him: "Make out a bill for me, Doctor," to which he answered: "Oh, no, Mrs. Harper; I cannot make out a bill; I don't want to, because you are the widow of a physician, and I won't think of doing such a thing." Referring to it again, she said: "Have you made out that bill?" and he said: "No; I have not made out any bill." Then she said: "I want the thing settled right now; have you made out any bill?" To that he answered: "No; I told you I was not going to make out any bill," and she said: "I want to give you something; will a thousand dollars do?" His reply was: "I would not think of asking that much." Again, she said: "How will $500 do?" and he said: "All right, I will take that."

This constituted a distinct contract, supported by a valuable consideration, namely, the services in the last illness. The effort to show that the amount Mrs. Harper agreed to pay Dr. Hardenstein for services to her in her last illness, that is, the sum of $500, was a gift merely, was preposterous, under the testimony.

Another physician testified that the customary and reasonable charge for a visit of a physician in the city was $2.50. The visiting list of the plaintiff contained no amount, but set out the dates of his visits, and the number of them. It was true that, when he first made this "visiting list," he had no intention of charging Mrs. Harper anything, and the entries in that list were not, at that time, made with a view of charging her. But, from the moment he made the contract with her to accept $500 for all his services during her last illness, he of course relied on these entries from that time forward as showing the dates of the visits and number of them, and the list was competent for that purpose from and after the making of the contract. He should have been permitted to recover on the testimony in this case to the extent of the contract, to-wit, $500.

Examination of Urine as Evidence of Cellulitis—Damages in Case of Second Amputation Even Though Made by Mistake

The Court of Civil Appeals of Texas says, in Houston and Texas Central Railroad Company vs. Hanks (124 S. W. R., 136), a personal injury case brought by the latter party, that the immediate consequence of his injury was a crushing of the foot, which after a considerable period of great suffering resulted in an amputation of one of the toes. This not giving relief, after a longer period of increased suffering, with complications setting up which threatened the most serious consequences, a second amputation was made, taking off the foot and part of the leg below the knee.

On the trial, the testimony of a physician was admitted in evidence, to the effect that he has examined the urine of the plaintiff and found that the kidneys were involved. This was objected to on the ground that there was no pleading to sustain any injury to the kidneys. But it appeared from the record that, after the amputation of the toe, cellulitis developed, which, it was claimed, rendered the second amputation of the foot and part of the leg necessary. It also appeared that when the objection was made to the admission of the physician's testimony, the plaintiff's counsel made the statement that no damages were claimed for any injury to the kidneys, but that this evidence was offered only as symptomatic of the cellulitis. The testimony of the physician was that the condition of the urine indicated that the cellulitis was very severe, which was the condition relied on to show the necessity for the second amputation. The trial judge specially instructed the jury not to allow any damages for injury to the kidneys. Under these circumstances, the court is of the opinion that the objection to the testimony was without merit.

Nor does the court consider that there was any error instructing the jury: "If you believe that the plaintiff in the selection of the physician or surgeon who treated him, and who amputated his leg, used 'ordinary care,' even though you may believe the surgeon made a mistake in the matter of amputating his foot, the plaintiff would be entitled to recover for the loss of his foot if you believe from all the evidence and the instructions herein given that the defendant company was responsible for the original injury, and that the loss of his foot was a natural and probable result of such injury."

A verdict for $10,500 was rendered in the plaintiff's favor, which, under the circumstances first above stated, is not deemed excessive; and judgment therefor is affirmed.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

April 30

1 *The Alcohol-Injection Treatment of Trifacial Neuralgia. W. M. Leszynsky, New York.
2 The Question of Hysterical Fever. L. A. Levison, Toledo.
3 *Angioneurotic Edema. A. D. Rockwell, New York.
4 Cocainism. T. D. Crothers, Hartford, Conn.
5 Migrain, Periodical Vomiting, and Epilepsy: Periodical Bloody Vomit. O. Lerch, New Orleans.
6 Specialism in Medicine; Is it Overdone? T. J. Hillis, New York.
7 Necessity for Scientific Medical Nomenclature. A. Rose, New York.

1. **Alcohol Injection Treatment of Trifacial Neuralgia.**—There is no good reason to-day, says Leszynsky, why a patient should be subjected to a cutting operation, when the alcohol injection is equally, if not more, efficacious in the majority of cases. This form of treatment when successfully applied is virtually surgical nerve resection without the resulting scar. He believes that in every obstinate case of trifacial neuralgia the alcohol injection treatment should be tried before operation is undertaken. He gives histories of fifteen patients treated successfully by him.

3. **Angioneurotic Edema.**—Rockwell cites a case of angioneurotic edema in which the trouble was brought on by cold or by touching anything cold. Heat was also unpleasant to the patient. Galvanism combined with general tonic treatment produced a cure.

New York Medical Journal

April 23

8 The Statistics of Cancer. T. A. McGraw, Detroit.
9 The Contractile Elements in the Connective Tissue. J. Wright, New York.
10 *Circumscribed Motor Paralysis and Cutaneous Anesthesia Following Injury of the Cerebral Cortex. W. M. Leszynsky, New York.
11 Diagnosis of Acute Mastoiditis by the General Practitioner. L. Saunders, New York.
12 *Simplified Method of Staining Fuchsinophile and Gramophile Forms of Tubercle Bacilli. F. Proescher, Pittsburg.
13 Prevention of Blindness. F. P. Lewis, Buffalo, N. Y.
14 Rectal Anesthesia. J. H. Cunningham, Boston.
15 A Cystoscopic Study of the Cerebrospinal Fluid in General Paresis. S. Stern, Philadelphia.
16 Flatulence. G. M. Niles, Atlanta, Ga.

10. **Injury to Cerebral Cortex.**—A man was struck on the head by a brick which had fallen six stories. The injury must have involved primarily the neighborhood of the left paracentral lobule, producing at first paralysis below the knee, which was subsequently associated with anesthesia. Hysterical sensory impairment superimposed on the traumatic organic lesion could safely be excluded. There were no indications of involvement of the peripheral neuron. Hence Leszynsky concludes that the present conditions are directly attributable to the injury (probably laceration and hemorrhage) of the superior portion of the precentral and postcentral gyri. This case is unique, he says, inasmuch as the traumatism is analogous to a physiologic experiment on the cerebral cortex, the motor and sensory impairment being limited to the distal portions of the lower extremity. Cases of paralysis of the leg or foot alone, due to a cortical lesion, are rare. In nearly all of the recorded cases, the cutaneous sensory disturbance accompanying lesions of the postcentral convolution has been confined to the upper extremity.

12. **Staining of Tubercle Bacilli.**—Proescher is using the following method: Smears are boiled for one-half minute and sections of tissue are allowed to stand for 15 or 20 hours in a solution containing 4 parts of carbolfuchsin (1 gram fuchsin in 10 c.c. of 96 per cent. alcohol and 90 c.c. of 5 per cent. carbolic acid water) to 1 of carbolgentian violet (10 c.c. saturated alcoholic gentian violet solution in 90 c.c. of 5 per cent. carbolic acid water). From this the slides are dried on filter paper, immersed in Lugol's solution for 2 minutes, decolorized in a solution of alcohol, 50 parts; acetone, 50 parts; nitric acid, 3 parts; washed in water and counter stained with weak methylene blue solution. Counter staining is not absolutely necessary in sputum smears, the granules being easily seen in the pale pink background. The specimens prepared by this method are very satisfactory. The granules appear deep or black violet and the bacilliary body red. Many of the granules are surrounded by red halo. Proescher believes that the combination of acetone, alcohol and nitric acid is preferable to acetone, alcohol, hydrochloric and sulphuric acids for differentiation.

Boston Medical and Surgical Journal

April 28

17 Modern Dietetic Principles: Their Practical Application. W. G. Thompson, New York.
18 *Clinical Aspects of Pulmonary Embolism. G. G. Sears, Boston.
19 *Blood Pressure in the Toxemias of Pregnancy. R. M. Green, Boston.
20 Importance of the Vertical or Articular Processes of the Vertebra in the Production of Congenital Scoliosis. Z. B. Adams, Boston.

18. **Pulmonary Embolism.**—The pathologic records of the Boston City Hospital, according to Sears, show that pulmonary embolism and infarction are fairly common postmortem findings since they were present 106 times in 3,006 autopsies, about 3.5 per cent. How frequently such cases appear in ordinary practice does not admit of statistical expression. The unusual number recently seen by Sears after attention had been particularly called to the subject by the occurrence of two or three striking instances, has raised a question as to the frequency with which they are overlooked, because their possibility is not considered in making a differential diagnosis. Some cases must necessarily escape detection because they cause no symptoms; others because they are terminal events occurring when the patient is already in a serious condition, if not *in extremis*, and the symptoms are confounded with those

of the primary disease; but too many remain undiagnosed because the attention is fixed on certain prominent phenomena or group of phenomena instead of on the whole clinical picture as presented by the history and the physical signs. Diagnosis rests on the sudden development of pulmonary symptoms, more or less intense, associated with circulatory disturbances, which may vary from a slight elevation of the pulse to those of serious cardiac failure, combined with the presence of a possible source of embolism either in advanced cardiac disease or in a venous thrombosis or a phlebitis.

The most characteristic symptoms are dyspnea, cough with bloody expectoration and pain, but the suddenness of its onset alone gives the first distinctive significance. The other two are so infrequent that their absence is of little importance. The discovery of physical signs of consolidation in the lungs may be of assistance in diagnosis, though a large infarction may lead to error by suggesting a pneumonic process. The chief difficulties of diagnosis arise through such a grouping of symptoms that other conditions are simulated and, while the association of symptoms may vary greatly, certain types may be recognized which may resemble one of the following conditions: cardiac asthma, acute dilatation of the heart, angina pectoris, pneumonia and pleurisy, phthisis, bronchitis and neuralgia.

19. **Blood Pressure in Toxemias of Pregnancy.**—Green differentiates the toxemias of pregnancy as follows: 1. Eclampsia is a toxic condition dependent primarily on the development of the fetus, manifesting itself by general and renal signs. This may be of varying grades, impending or mild, acute or severe, and fulminating or fatal. Each grade presents a definite clinical picture and is associated, the first with a moderate, the second with a marked, the third with an extreme increase of blood pressure. In the first two the symptoms disappear and the blood pressure falls after delivery. In the last the blood pressure rises and the disease progresses to a rapidly fatal termination. The blood pressure seems definitely related to the type of case, and its observation should be of value in prognosis and treatment.

2. Chronic nephritis is a toxic condition occurring during pregnancy from the inability of a previously damaged kidney to meet the new work thrown on it, but independent of any toxin of fetal origin. In such cases the toxemia is relieved by delivery, but the cause is not removed and the high blood pressure and evidence of renal disease remain as future warning signals. In addition there are the non-toxic renal conditions complicating pregnancy, but differentiable, if necessary, by their persistently low blood pressure, and finally the non-toxic albuminuria of purely mechanical origin. This differentiation of types of toxemia of pregnancy is incomplete, since there are well-recognized clinical forms not here represented, notably post-mortem eclampsia and the pernicious vomiting associated with liver necrosis and jaundice or other biliary symptoms. Green expects to continue his observations to determine the facts of blood pressure in such cases and to complete the classification of the toxemias as indicated thereby.

Lancet-Clinic, Cincinnati

April 16

21 Veratrum Viride. J. H. Landis, Cincinnati.
22 The Basel Nomenclature: Its Use in the Schools at Present. E. M. Baehr, Cincinnati.

April 23

23 Etiology of Sterility. J. W. Rowe, Cincinnati.
24 Methods of Teaching Materia Medica and Therapeutics. G. W. Spencer, Cleveland.
25 The Passing of the Old Medical College Building of the University of Louisville. R. V. Gilbert, Louisville, Ky.

Virginia Medical Semi-Monthly, Richmond

April 8

26 Nerve Suture. J. S. Horsley, Richmond.
27 *Unique Case of Fracture of Spinal Process. F. L. Biscoe, Washington, D. C.
28 *Hereditary Criminals—The One Sure Cure. C. V. Carrington, Richmond.
29 Case of Sarcoma of the Ovaries. J. E. Rawls, Suffolk.
30 High Medical Education—An Argument for English Preparatory Training Only. A. Memminger, Charleston, S. C.
31 Secondary Anemia Following Acute Intestinal Indigestion. J. E. Walsh, Washington, D. C.

April 22

32 Some Neglected Points in the Examination, Preparation and After-Treatment of Surgical Patients. S. McGuire, Richmond.
33 Interesting Features of Extrauterine Pregnancy. S. Highsmith, Fayetteville, N. C.
34 Roentgenology. R. H. Boggs, Pittsburg.
35 The Prevention of Ophthalmia Neonatorum. J. F. Moran, Washington, D. C.
36 A Plea for Patience During the First Stage of Labor. J. E. Patrick, Farmville.
37 Cause and Treatment of Otitis Media. J. L. Kent, Lynchburg.

27. **Fracture of Spinal Process.**—A boy of 17, while playing in a game of base-ball, and in the act of running, attempted to slide, and in doing so his head came in contact with the leg of the opposing player. There was pain in the region of the neck and slightly restricted motion of the head to the right; pain accompanying movements of the head in this direction. A slight swelling appeared on the back of the neck to the right of the median line and on a level with the fourth cervical vertebra, and pressure on this spot caused pain. There was no evidence of interference with circulation in the vertebral artery; no paralysis and no cutaneous anesthesia. The skiagram showed fracture of the right transverse process of the fourth cervical vertebra, with the fragment pointing upward. The fracture was treated by means of a thick crinoline collar covering the entire neck. Recovery was complete.

28. Abstracted in THE JOURNAL, March 19, 1910, p. 995.

Medical Fortnightly, St. Louis

April 11

38 Endothelioma of the Peritoneum. E. E. Montgomery, Philadelphia.
39 Abortion. A. Samuels, Baltimore.
40 Gonorrheal Arthritis. J. V. Shoemaker, Philadelphia.

Kentucky Medical Journal, Bowling Green

April 15

41 Phases of Diseases of the Ear and Throat as Seen by the Pediatrician. P. F. Barbour, Louisville.
42 Influence of Climate on Pulmonary Tuberculosis. J. M. Morris, Louisville.
43 Rational Treatment of Hypertension and Sclerosis of Arterial System. C. Pope, Louisville.

Northwestern Lancet, Minneapolis

April

44 History of the Local Administrative Health Work. A. O. Bjelland, Mankato, Minn.
45 A Notable Typhoid Epidemic at Mankato, Minn. F. H. Bass, Minneapolis.
46 State Associations and the American Medical Association. F. R. Green, Chicago.
47 Conservation of Human Life. H. M. Bracken, Minneapolis.

Laryngoscope, St. Louis

March

48 *Index Medicus (1909) of Otolaryngology.

48. **Index Medicus of Otolaryngology.**—Every progressive otologist and laryngologist who desires to keep abreast of the literature of the subject will find almost a complete library of the work in otology and laryngology of 1909 in this issue. This "Index Medicus" has been divided into two sections, first, bibliography; second, abstracts. The sub-classification of this system is based largely on the nomenclature adopted in recent years by national and international otologic and laryngologic bodies, with such modifications as the editor has seen fit to make in order to elaborate and subdivide the subject matter more definitely.

Journal Abnormal Psychology, Boston

April-May

49 Psychogenetic Convulsions. C. D. Fox, Philadelphia.
50 Hysterical Anesthesia. H. Linenthal, Boston.

Long Island Medical Journal, Brooklyn

April

51 Hyperthyroidism in the Adolescent. F. B. Cross, Brooklyn.
52 Newspaper Medicine. H. Greeley, Brooklyn.
53 Cervical Adenitis. R. Durham, Brooklyn.
54 Transposition of Thoracic and Abdominal Viscera. A. C. Jacobsen, Brooklyn.
55 The Rational Treatment of So-Called Inoperable Uterine Cancer. W. B. Chase, Brooklyn.

Kansas City Medical Index-Lancet

April

56 The Missouri State Conference of Charities and Corrections. G. W. Robinson, Kansas City.
57 Nervous Diseases of Children and their Relation to School Life and Work. J. Punton, Kansas City.
58 Dermatitis Seborrheicum. J. P. Kanoky, Kansas City.

Therapeutic Gazette, Detroit

April

59 Various Therapeutic Measures that Have Been Successfully Employed in the Department of Orthopedic Surgery in the Jefferson Medical College. H. A. Wilson, Philadelphia.
60 Bier's Hyperemia Applied to Suppurative Processes in Dispensary Work. S. W. Moorhead, Philadelphia.
61 *Relation of Digitalis to the Bundle of His. H. A. Hare, Philadelphia.
62 Treatment of Gonorrheal Infections by Antigonococcus Serum. T. C. Stellwagen, Philadelphia.
63 Usefulness of Adrenalin Chlorid in Surgery and Medicine. W. H. Wilder, Birmingham, Ala.

61. **Relation of Digitalis to the Bundle of His.**—Given a patient suffering from circulatory failure due to mitral stenosis, Hare says that it is our duty not only to weigh carefully the import of the tumultuous cardiac sounds but by the use of instruments of precision to determine, if possible, whether there is delay in the transmission of the contraction impulse over the bundle. If such a delay exists, digitalis in doses large enough to cause a distinct sharp cardiac effect is probably capable of prolonging this delay and so doing harm. If in addition to this delay there is a jugular pulse synchronous with ventricular systole, digitalis is still more contraindicated, as it will impair the action of the left auricle, and will still further distend it by stimulating the right ventricle. If given at all, the dose of digitalis must be so small as to produce a very gradual effect, one which will not consist in decreasing auricular contraction through vagal stimulation, but which will gently reestablish general cardiac power. In other words, the question of a proper dose is as important as the choice of the proper drug. Give the patient absolute rest, unload the portal system by free purgation, use venesection to relieve stasis, and give rapidly-acting diffusible stimulants for a few hours until the coördination of cardiac movement is reestablished. When this is done, then small doses of digitalis, arsenic and iron may be used to restore cardiac tone.

Gulf State Journal Medicine and Surgery and Journal of the Southern Medical Association, Mobile, Ala.

April

64 Pretabetic Laryngeal Spasm. H. H. Martin, Savannah, Ga.
65 Demonstration of a New Quick Typhoid Agglutination Test. C. C. Bass and J. A. Watkins, New Orleans.
66 Feeding in the Second Year. J. R. Snyder, Birmingham.
67 Prevention and Treatment of Peritonitis. S. W. Johnston, Vicksburg.
68 Hernlotomy Under Local Anesthesia. C. W. Allen, New Orleans.
69 Immunizing Treatment of Hay-Fever. W. Scheppegrell, New Orleans.
70 Operation for Cure of Fibroid Tumors of the Uterus without Removal. C. Hamilton, Rome, Ga.
71 Pellagra at Nashville, Tenn. J. M. King, Nashville.

American Journal of Surgery, New York

April

72 *Surgery of the Knee Joint. J. G. Sherrill, Louisville.
73 Ionic Surgery in Cancer of the Mouth and Nose (continued). G. B. Massey, Philadelphia.
74 Retained Membranes: Shall we Remove them at the Time of Labor? G. L. Brodhead, New York.
75 Weak Foot. I. D. Steinhardt, New York.
76 A Case of Cut-Throat. G. G. Cotton, Rock Rapids, Iowa.
77 Operation Card for Patients: A Suggestion. F. C. Yeomans, New York.

72. Abstracted in THE JOURNAL, Jan. 8, 1910, p. 151.

University of Pennsylvania Medical Bulletin, Philadelphia

March

78 Experiments with the Alkaloids of Aspidosperma. H. C. Wood, Philadelphia.
79 *Isolation of *Bacillus Typhosus* from the Blood of Typhoid Patients. H. A. Schatz, Philadelphia.
80 Histologic Structure of Spontaneous Subcutaneous Tumors in Mice, Including Five Cases of Multiple Tumors. J. W. Hunter, Philadelphia.
81 Studies in Neurofibrils. S. D. W. Ludlum, Philadelphia.
82 *Unusual Retinal Lesions in Association with Incipient Pulmonary Tuberculosis. G. E. deSchweinitz and T. B. Holloway, Philadelphia.
83 Left Homonymous Hemianopsia Occurring in a Worker in Lead. W. C. Posey and C. B. Farr, Philadelphia.

79. **Isolation of Bacillus Typhosus from the Blood.**—Schatz found that *B. typhosus* and *B. paratyphosus* are most numerous in the peripheral circulation during the first week of the disease, and blood cultures made during that time are, as a rule, positive. The isolation of the organisms in question can be accomplished by a very simple method, from 12 to 15 drops of blood being sufficient; the time required for this work need not exceed 18 hours. The method employed by Schatz was essentially that outlined by Peabody in THE JOURNAL, Sept. 19, 1908.

82. **Unusual Retinal Lesions in Pulmonary Tuberculosis.**—The first patient seen by de Schweinitz and Holloway gave evidence from clinical signs of incipient tuberculous lesions at the apex of the right lung, that the diminished blood pressure was probably in association with this condition of affairs, and that although no tubercle bacilli were discovered in the sputum, for, indeed, there was no expectoration, von Pirquet's test was actively positive. In the central region of the retina of the right eye, there was a large whitish exudate which almost surrounded the macular area. Down and out from the disk in the mid-zone of the fundus there was an irregular exudation of similar color and caliber. Far out in the temporal periphery there was a large irregular lesion having a slightly yellowish tinge in some places, and scattered through it were a number of fine hemorrhages and small vascular dilatations, but it was not possible with any degree of accuracy to determine whether or not these were associated with arterial or venous twigs. One large dilatation was spherical in form and was connected with a venous branch, while near it there were three similar but smaller spherical dilatations, lighter in color and almost certainly attached to small arteries. Close by these lesions there was a wide spheroidal patch, from which projected a whitish spur. Scattered along the course of the upper temporal vein there were numerous small hemorrhages.

It was difficult to study the peripheral lesions on account of their anterior situation, and because of the patient's inability to maintain extreme outward rotation. In no place in the retina, however, was it possible to demonstrate with certainty an arteriovenous communication. The left eye was perfectly normal, except that there was a slight tortuosity of the retinal vessels.

The physical examinations of the second patient indicated incipient tuberculosis of the right apex; the von Pirquet test was positive; there was some intestinal autointoxication, and a diminished systolic blood pressure. Above the macular region and lying beneath the retinal vessels of the right eye was a crescentic patch of white exudation. A branch of the superior temporal vein crossed the circinate lesion, and from a point which corresponded to the center of the concavity gave off a branch which descended perpendicularly. On this branch near its origin there was a spheroidal dilatation of the vein, and just below, after the vein had passed beneath a horizontal temporal artery, there was an atrophic area of about the same size, into which protruded a sac-like dilatation of the wall of this vein. Near this atrophic area were a number of small hemorrhagic spots. On the branches of the lower temporal artery which proceed toward the macula a number of aneurismal dilatations, associated with near-by punctate hemorrhages, were visible.

Similar dilatations were noticeable on a vertically descending artery, while the inferior temporal vein, some distance from the disk, also showed irregularities in caliber. The macular region was granular, and the seat of a fine discreet pigmentation, while the vascular terminals about this region were unduly prominent, tortuous, and markedly irregular in their caliber. The peripheral field was normal; in its center there was a scotoma. The left eye was normal in all respects.

Louisville Monthly Journal of Medicine and Surgery

April

84 Male Cystoscopy and Ureteral Catheterization. L. Frank, Louisville.
85 Myelitis. B. C. Frazier, Louisville.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

April

86 *Incidence and Clinical Causes of the Toxemias of Pregnancy. E. P. Davis, Philadelphia.
87 *Seventy Cases of Extrauterine Pregnancy Treated Surgically. J. W. Bovée, Washington, D. C.
88 Treatment of Non-Puerperal Pelvic Infections of the Upper Pelvic Zone. R. T. Gillimore, Chicago.
89 Unilateral Twin Tubal Pregnancy. E. H. Pool and F. Robbins, New York.
90 *Erythema Multiforme Gestationis. W. S. Gotthelf, New York.
91 Teratoma Strumosum Thyroideal Ovarii. F. Proescher and J. A. Roddy, Pittsburg.
92 Vicarious Epistaxis in the Menopause. D. I. Macht, Baltimore.

93 Treatment of Eclampsia a Century and a Half Ago. F. J. Carroll, Summerville, S. C.
94 An Estimate of the Value of Pasteurized and Sterilized Milk in the Dietary of Children. LeG. Kerr, Brooklyn.

86. Toxemias of Pregnancy.—Recognizing toxemia as the cause of the altered nervous conditions present Davis says one naturally avoids the mistake of drugging these patients with opium, chloral, bromids, or coal-tar derivatives to quiet the nervous system. Prompt elimination, with hydrotherapy, is most efficient in treating these conditions. The state of the nervous system is the practitioner's most valuable index of the patient's danger, and the sensitiveness of this instrument of warning we scarcely desire to lessen.

87. Extrauterine Pregnancy.—The 70 cases of extrauterine pregnancy encountered by Bovée are classified anatomically as follows: Tubal, 67 (1 complicated by uterine pregnancy; tubo-ovarian, 1 ; and retroperitoneal (at full term), 2. The various complications met were uterine fibroids, pyosalpinx, suppuration of the area adjacent to the injured tube, suppuration in coagulated blood that well filled the pelvis, cardiac disease, certain of exhaustion from repeated efforts to check hemorrhage by attempts to clean out the uterus before admission to the hospital, nephritis, embolus, pulmonary tuberculosis, prodigious hemorrhage, and infection of various kinds from introduction of instruments of different varieties into the uterus in attempting to produce abortion. In one case of full-term retroperitoneal pregnancy, death occurred from pulmonary tuberculosis 13 days after operation.

The fetus was found in 33 cases, including 2 full-term specimens. In the 9 patients operated on by the vaginal route alone the fetus was found in 2. In 11 operated on by the vaginal and abdominal routes combined the fetus was removed through the vagina in 5 and through the abdominal opening in 4, while in but 20 of the 48 early pregnancy cases in which the abdominal route alone was used was a fetus found. The fetus was found behind the uterus 8 times, 4 times in the tube, in 1 partly in the tube and partly in a sac, in 2 in a small sac near the tube, once in a cavity formed by the tube and ovary, once on top of the bladder, and once on top of the uterus. In 13 it was found in the lower part of the abdominal cavity. In 2 instances the fetal structures were apparently safely implanted among loops of intestine. In one of these a living four-months' fetus was found. In this instance the history did not clearly determine the date of expulsion from the ruptured tube.

The 13 deaths in Bovée's work were due to the following causes: Secondary hemorrhage, 2; profuse hemorrhage at time of operation caused by beginning by the vaginal route, 3; shock, 3, and 1 each from pulmonary tuberculosis (thirteenth day), embolus (48 hours), exhaustion (ninth day), angina pectoris, and infection. The treatment, Bovée says, is always surgical. The routes employed for operation in his series were the abdominal, 50 times, the vaginal 9, and the vaginal immediately followed by the abdominal or *vice versa*, 11 times. In one of them there was a positive contraindication to the abdominal route as the five-months' fetus and sac were lying behind the uterus, infected and discharging through a fistula into the vagina. Here dilatation of the fistula and emptying the pelvic abscess cavity with drainage was the sole procedure worthy of consideration.

90. Erythema Multiforme Gestationis.—A patient, otherwise healthy, had been 4 times pregnant since her marriage in 1900. Each time when the pregnancy had been a few weeks old she had a severe attack of erythema multiforme, the lesions in the early parts of the outbreaks being papular and erythematous, later of the iris form and vesicular, and finally bullous. This eruption persisted during the entire pregnancy and continued for from 4 to 8 weeks postpartum. Three of the attacks have been personally observed by Gottheil.

Treatment, save in so far as it alleviated the pruritus and protected the denuded surfaces, has not been of much effect. On the other hand, termination of the pregnancy and of the postpartum metabolic processes appear in each case to have stopped the outbreak. Gottheil prefers the diagnosis of erythema multiforme to that of dermatitis herpetiformis on account of the characteristic appearance of the eruption in the three outbreaks that he has seen.

Colorado Medicine, Denver

April

95 Serodiagnosis of Syphilis. W. W. Williams, Colorado Springs.
96 Tuberculosis in Childhood. G. R. Pogue, Greeley.
97 The Newer Tuberculin Tests: Their Diagnostic, Prognostic and Therapeutic Values. S. Simon, Denver.
98 Is Cancer on the Increase? W. W. Grant, Denver.

Mississippi Medical Monthly, Vicksburg

April

99 Ameblc Enteritis. A. J. Jagoe, Clarksdale.
100 Psychotherapy. J. W. Unger, West Point.
101 Promiscuous Prescribing. W. S. Derrick, Goodman.
102 Diagnosis of Chronic Interstitial Nephritis. M. L. Pollard, Thornton.

Pennsylvania Medical Journal, Athens

April

103 Raynaud's Disease with Polycythemia and Enlargement of the Spleen: Gangrene of Both Toes: Amputation of Both Legs. R. M. Goepp, M. B. Miller and J. A. Kelly, Philadelphia.
104 *Nitrogen Metabolism in a Case of Raynaud's Disease with Cystinuria. T. S. Githins, Philadelphia.
105 *Symptomatic Raynaud's Disease. J. H. Musser, Philadelphia.
106 *Symptomatology and Pathology of Anemia of the Central Nervous System. S. Leopold, Philadelphia.
107 *Nervous Symptoms in Leucemia and Hodgkin's Disease. A. H. Woods, Philadelphia.
108 Conclusions Based on a Study of 385 Cases of Perineal Prostatectomy. H. M. Young, Baltimore.
109 Indications for Surgery of the Prostate. J. B. Deaver, Philadelphia.
110 Mastolditis in Diabetes. B. H. Potts, Philadelphia.
111 Metastatic Gonorrheal Conjunctivitis. W. Zentmayer, Philadelphia.

104. Raynaud's Disease.—A patient ill with Raynaud's disease was put on a fixed diet and the urinary nitrogen was studied. He showed extreme irregularity from day to day, but no marked peculiarity in the total excretion of any normal constituent. On two days, however, there was found a large amount of cystin; no putrescin or cadaverin was present. The presence of cystin points to the occurrence of putrefaction, almost always intestinal. The coincidence of cystinuria with Raynaud's disease or gangrene is, so far as can be found, unique.

105. Symptomatic Raynaud's Disease.—There are many features in Musser's case which point to the possibility of it being one of pellagra. The patient, aged 22, a seamstress, was perfectly well until four years ago, when striking her finger with a needle it became swollen and painful. The other three fingers became affected and the first finger had to be amputated. Since that time the condition has affected both arms and both legs, the chest and the trunk. The parts affected become white and red, and at times black. The five toes of the right foot were amputated because of sloughing after turning black. There have been attacks amounting almost to hysteroepilepsy. The other most important symptoms are occurrence of sore mouth and enteritis. Musser is not prepared to say that it is a case of pellagra. One other condition suggested is leprosy, the deformities being much like those seen in the latter stages of leprosy.

106. Anemia of the Cerebral Nervous System.—Leopold analyzes the changes found in the brain and spinal cord of six cases of anemia of the cerebral nervous system, and also discusses some of the more unusual clinical symptoms in eight cases. The chief features noted were, the variableness in the character of the symptoms, the difficulty of diagnosis when a girdle zone of hypesthesia and pain are present, the presence of muscular atrophy in one case, the sudden onset in another, developing within twenty-four hours. The unusual features in the pathology of the cord consisted in the unilateral involvement of the left cross pyramidal tract in one case and the involvement of the medulla at its upper level in another. No one case was similar to the other, all showing varying stages in the process, from island-like foci in the posterior and lateral columns to diffuse degenerations of the entire cord. The changes found in the cerebral cortex consisted in cloudy swelling, chromatolysis and migration of the nuclei and congestion of the blood vessels. The mental changes consisted in varying pictures from stupor and mental apathy to emotional irritability and delirium.

107. Nervous System in Leucemia and Hodgkin's Disease.—Woods believes that the nervous findings are much alike in the two conditions. In leucemia, headache and neuralgic pains are almost constant. Anesthesia, hyperesthesia, and various paresthesiæ, such as burning and numbness, mark involvement of particular nerve trunks and tracts. Paralysis of cranial

nerves are more common than of the nerves of the extremities. Several patients had paraplegia from the navel downward. Tragic endings in apoplexy with hemiplegia, rapidly developing coma and death, may be the first announcement of cerebral trouble. Visual defects, from mere scotomata up to complete blindness, are frequently mentioned. The pupils vary in size and reactions. Troublesome tinnitus aurium and some degree of deafness occur. Dyspnea is frequent. Mental disturbances appear, as melancholia, maniacal outbreaks, delirium and coma. The priapism sometimes mentioned may have been due to vascular stoppage or to nervous involvement. One patient developed severe and long-continued herpes of a large portion of one side of the face. The symptoms in Hodgkin's disease referable to the nervous system in the cases noted were chiefly paralyses from pressure, lancinating pains, spasms of muscles, wasting, various sensory effects of pressure on nerve trunks, and the list that one would expect from involvement of cranial nerves. Herpes zoster was noted in one case.

Albany Medical Annals

April

112 The Differential Diagnosis Between Cancer and Ulcer of the Stomach and Gall Bladder Disease. D. Guthrie, Sayre, Pa.
113 Acute Suppurative Otitis Media. A. H. Brownell, Oneonta, N. Y.
114 High-Frequency Electricity in Treatment of Adenitis, Prostatitis, and Local Affections. W. G. Lewi, Albany.
115 Anterior Poliomyelitis and its Treatment by Muscle Training. J. M. Berry and B. van Denbergh, Troy, N. Y.

Texas State Journal of Medicine, Fort Worth

April

116 Limitations of the Use of Bismuth Paste in Chronic Suppurative Diseases. E. G. Beck, Chicago.
117 Sympathetic Ophthalmia. J. O. McReynolds, Dallas.

Journal of Advanced Therapeutics, New York

April

118 Phototherapy in Arterial Tension. T. D. Crothers, Hartford, Conn.
119 A Few Therapeutics from Observation of X-Ray Treatments. W. H. Mick, Omaha, Neb.
120 The Vacuum Method of Relieving the Overworked Senile Heart. M. M. Johnson, Hartford, Conn.

Alabama Medical Journal, Birmingham

April

121 Simple and Diphtheritic Sore Throat. B. D. Sibley, Birmingham.
122 Summer Complaints. G. L. Servoss, Fairview, Nev.
123 Cause and Treatment of Headaches. J. W. Knowlton, Birmingham.
124 *Splenectomy in Splenic Anemia—Recovery. E. M. Prince, Birmingham.
125 Abscess of the Spleen. U. J. W. Peters, Birmingham.

124. **Splenectomy in Splenic Anemia.**—Prince's patient, a male, aged 26, had had periodic attacks of malaria. Six years ago he was rejected by military authorities in his native country on account of a large tumor in the left side. Up to this time the patient knew nothing of the existence of the tumor. Operation was advised and done under gas-oxygen anesthesia. Many adhesions were found between the spleen and the abdominal wall, and on breaking these up a pocket of pus was found. The adhesions throughout were found to be plentiful and the bleeding was very troublesome. The patient was on the table 32 minutes; the pulse went up from 60 to 140. Adrenalin was given while he was on the table, and continued after he was removed to his bed; camphorated oil and strychnin were also given. He had marked cyanosis for ten hours after the operation, and oxygen was given continually during this time. The foot of bed was also elevated and other measures for shock used. Convalescence was uneventful, except for two elevations of temperature due to formation of stitch abscesses. The spleen weighed 56 ounces. The blood picture of this case is interesting: Before operation, red cells 2,400,000; leucocytes, 1,700; hemoglobin, 50 per cent. About 2 months after operation it was leucocytes 8,000; red cells, 5,000,000; hemoglobin, 90 per cent. Eight months after operation the patient is in perfect health, has gained 53 pounds in weight, and is at work as a day laborer.

Journal of the Tennessee State Medical Association, Nashville

April

126 Scientific and Economic Sides of the Meat Question. C. P. McNabb, Knoxville.
127 Multiple Sclerosis, Report of Case. S. T. Rucker, Memphis.
128 Histories of Neurotic Families. J. Lanski, Chattanooga.
129 Sarcoma of the Ovary. E. C. Demoss, Nashville.

Journal of Ophthalmology and Otolaryngology, Chicago

April

130 Shortening of an Ocular Muscle by Tucking. H. W. Woodruff, Joliet, Ill.
131 Removal of the Middle Turbinated Body. J. J. Kyle, Indianapolis.

Journal Michigan State Medical Society, Battle Creek

April

132 Final Results of Thyroidectomy for Exophthalmic Goiter. M. Ballin and J. W. Vaughan, Detroit.
133 Winter Cholera. M. L. Holm, Lansing.
134 Direct Transfusion. W. E. McNamara, Trimountain.
135 Phases of Chronic Diseases of the Stomach, Duodenum, Gall-Bladder and Appendix. W. T. Dodge, Big Rapids.
136 Clinical Importance of Blood-Pressure Observations. B. A. Shepard, Plainwell.
137 *Hydronephrosis and Pus-Producing Infections of the Urinary Tract Complicating Pregnancy. C. M. Davis, Lansing.

137. Abstracted in THE JOURNAL, Oct. 9, 1909, p. 1224.

Northwest Medicine, Seattle

April

138 The Wassermann Reaction with a Laboratory Demonstration. A. P. Lensman, Seattle.
139 *The Result of 1,289 Wassermann Examinations. R. C. Matson, Portland.
140 *Latent Syphilis Diagnosed by the Wassermann Test. G. Baar, Portland.
141 *Early Diagnosis of Typhoid by Blood Cultures. E. P. Fick, Seattle.
142 Hyoscin in Obstetrics. G. Parrish, Portland.
143 Problems of State Tuberculosis Sanatoria. E. R. Kelley Seattle.
144 Pathology of the Appendix. C. G. Sabin, Portland.

139. **The Result of Wassermann Examinations.**—In Matson's examination of 44 cases of primary syphilis, 95 per cent. were positive; in 55 cases of secondary syphilis 50 per cent. were positive; in 27 cases of tertiary syphilis 80 per cent. were positive; in 44 cases of latent syphilis 68 per cent. were positive; in 36 cases of visceral syphilis 88 per cent. were positive; in 3 cases of cerebral syphilis 100 per cent. were positive; in 2 cases of spinal syphilis 50 per cent. were positive; one case of hereditary syphilis was positive; in 6 cases of tabes 5, or 83 per cent., were positive. In his examinations of 112 individuals suffering from typhoid, tonsillitis, carcinoma, paraplegia, neuralgia, optic atrophy, neurasthenia, cerebral hemorrhage, simple anemia, pernicious anemia, aortic aneurism, herpes preputialis, ulcers of the glottis, cirrhosis of the liver, asthma and other diseases, including 9 cases of carcinoma, all were negative, except one case of liver carcinoma, in which the history was indefinite. He also applied the test in 600 inmates of the Oregon State Insane Asylum; 20 per cent. gave positive reaction, while only 5 per cent. gave specific histories, and none presented visible or clinical manifestations; 15 per cent. of 51 cases of dementia præcox were positive; 16 per cent. of 151 cases of paranoia were positive; 25 per cent. of 40 cases of chronic mania were positive; 20 per cent. of 26 cases of chronic melancholia were positive; 20 per cent. of 62 cases of dementia were positive. General paralysis invariably gave positive reactions.

140. **Latent Syphilis and Wassermann Test.**—Baar reports 26 cases, in 21 of which the Wassermann test was made either to corroborate the diagnosis already made, or to prove the necessity of antisyphilitic treatment, in cases in which no diagnosis of syphilis could be made, in spite of all appreciation of present knowledge of clinical symptoms of latent syphilis. The test proved positive in 19, while it was negative only in 2, one being a patient with meningitis spinalis lumbalis, who had been treated with iodid up to the time of the test; the other being a patient with bilateral hydrothorax, who had been subject repeatedly to specific treatment. Baar finds that these results prove beyond a doubt the advantage of the chronic intermittent over the symptomatic treatment.

141. **Diagnosis of Typhoid.**—Fick has successfully employed the ammonium oxalate method of diagnosing typhoid by means of blood cultures in 25 cases. Not a single negative report subsequently proved a clinical typhoid and, conversely, every positive report was clinically proved correct. Fick has modified the Epstein technic, first in the amount of blood taken; 10 c.cm. is preferable and is obtained in all cases in which it can be. Second, it does not seem necessary to plate

and culture out positive blood specimens. This takes considerable time, which is a factor of great importance to the physician, so he believes that it is sufficient to call an organism *Bacillus typhosus*, when it is Gram-negative, is actively motile, and can be made to agglutinate with typhoid agglutinative serum.

Vermont Medical Monthly, Burlington

April

145 Rational Treatment of So-called Inoperable Uterine Cancer. W. B. Chase, Brooklyn.
146 Evolution of Medicine and Some Important Problems Especially Important Connected with It. H. C. Tinkham, Burlington.
147 Sudden Death in its Medicolegal Aspects. C. F. Dalton, Burlington.

Journal Oklahoma State Medical Association, Muskogee

April

148 The Trend of Modern Therapeutics and Treatment of Disease. A. B. Leeds, Chickasha.
149 The Relative Pathology Complicating a Displaced Uterus. G. N. Ballard, Oklahoma City.
150 Laryngeal Tuberculosis. H. H. Wilson, Shawnee.
151 Ozena. J. R. Dale, Hobart.
152 Why Statistics are Important. C. L. Reeder, Tulsa.
153 Morphinomania. C. Blickensderfer, Shawnee.

Detroit Medical Journal

April

154 Operative Treatment of Fractures. F. B. Walker, Detroit.
155 An Enormous Waste of Human Life. G. H. Cunningham, New York.
156 Various Catheters for the Eustachian Tube. E. Amberg, Detroit.
157 Medical Inspection of Public Schools. J. W. Van Derslice, Oak Park, Ill.

Montreal Medical Journal

April

158 The Ancient Greek Schools of Medicine. A. G. Nichols, Montreal.
159 Demonstration of Trypanosoma Cruzi. J. L. Todd, Montreal.
160 Sacroiliac Strain, Tendon Transfer, Double Congenital Club-Foot. J. H. Nutter, Montreal.
161 *Unusual Rupture of an Aneurism. J. McCrae, Montreal.

161. **Unusual Rupture of an Aneurism.**—The subject of McCrae's report, a male negro, aged 43, died suddenly of a ruptured aneurism. A porter by occupation, he had been troubled for 3 weeks by pain in the chest, beginning between the shoulders and coming to the front; it was burning in character, rather intense and severe on coughing or sneezing. Swallowing, also, was accompanied by the same pain. For an hour after eating, the pain seemed increased, and occasionally he felt as if he were choking; by reason of the pain he could not sleep on his right side. No sign of aneurism was elicited. He suddenly developed dyspnea, slowing respirations and a pulse that was barely perceptible. Presently his breaths were drawn at minute-long intervals, and he died, not before it had been observed, however, that the right chest became flat on percussion from the apex to the fifth rib in front. Death followed the onset of dyspnea in about 15 minutes.

The autopsy, 5 hours after death, showed that an aneurism of the transverse arch of the aorta, not bigger than 3 by 2.5 cm. had ruptured; the blood had passed behind the esophagus and had dissected up the parietal pleura on the back wall of the thorax, throwing the lung forward, until a clot, weighing more than 1,200 grams, had nearly filled the available space of the right chest. The ascending limits of the aorta were not enlarged. The left carotid took origin from the innominate artery. The left subclavian opened 1 cm. beyond this. At the level of the left subclavian opening, on the posterior wall, was an area 3 cm. in both diameters, surrounded by a distinct ridge and forming a shallow sacculation in which the wall was fairly transparent from extensive loss of the media. At the upper and outer angle of this area was a somewhat slit-like opening 2.5 cm. transversely by 8 mm. in the long axis of the vessel opening into a false aneurismal sac, lying to the left side of and in front of the aorta. This sac was 3 cm. from side to side and 2.5 cm. in height. An opening from this sac (the final rupture) led into the tissues behind the esophagus, and was in direct connection with the huge retropleural hemorrhage. In the first part of the descending aorta was another puckered area showing loss of media. Below this the aorta showed little change, save frequent fatty plaques of the intima.

The Ophthalmic Record, Chicago

April

162 Cataract Resulting from Electric Shock. J. M. Robinson, Duluth, Minn.
163 Herpes Zoster Ophthalmicus. E. A. Clarke, Canon City, Colo.
164 Recovery from Chronic Sympathetic Ophthalmitis with Normal Vision. G. Friebis, Philadelphia.
165 Congenital Cataract of an Unusual Type. W. Zentmayer, Philadelphia.

Buffalo Medical Journal

April

166 Dividing Professional Fees. M. D. Mann, Buffalo.
167 Gunshot Lesions of the Spinal Column. J. P. Creveling, Auburn, N. Y.
168 The Medical Man of China. J. A. Rafter, Buffalo.

Journal of Nervous and Mental Disease, Lancaster, Pa.

April

169 *An Isolated Case of Family Periodic Paralysis. M. Mailhouse, New Haven, Conn.
170 *Anesthesia and the Lack of it in Diagnosis of Spinal Cord Tumors. P. Bailey, New York.
171 *Spinal Cord Tumor Observed within a Period of 10 days: Observations of the Behavior of the Cerebrospinal Fluid. W. C. Krauss, Buffalo.
172 *Henoch's Purpura with Spinal Cord Symptoms. G. W. Howland, Toronto, Canada.
173 *Ankle Clonus in a Case of Major Hysteria. J. D. Heard and T. Diller, Pittsburg.

169. **Family Periodic Paralysis.**—Mailhouse agrees with J. J. Putnam that inhibition plays a prominent rôle in the development of the symptoms and that the paralytic phenomena are similar to those produced by curare. In a case observed by him there was a striking diminution in the amount of magnesium salts eliminated by the urine, hence possibly retention in the blood or muscle and hence inhibition at such times when the resisting power is lowered. Another phenomenon pointing in the same direction is that of the coagulating blood in this case, calcium salts being considered now as promoting blood coagulation. When a specimen of blood was taken from the ear, clotting took place so rapidly that it was with much difficulty that the pipette could be drawn full of the fluid. An examination of the digestion of the patient in the interval between attacks also showed an abnormality. Gastric digestion was imperfect in that he was unable to care for the connective tissue that he consumed in his meat. Examination of the urine showed the presence of creatin in not inconsiderable quantities. There also appeared a positive reaction in tests for protein (there were no casts) and in two instances for proteose, i. e., like a Bence-Jones albuminuria, as is found in cases of osteomalacia.

170. **Anesthesia in Spinal Cord Tumors.**—A careful investigation of all the cases in the literature has convinced Bailey that no tumor of the spinal cord can be diagnosticated with sufficient certainty to justify operation if cutaneous sensibility is intact. In three patients seen by him many things pointed to a tumor being present, but the subsequent course of the disease proved that in all probability there was no tumor, and certainly that operative interference would have resulted in nothing but embarrassment to those recommending it. The chief point of clinical difference at the time the symptoms were at their height was the absence of anesthesia. In all, one or both knee-jerks were lost and the pain was the exact counterpart of pain as it may occur in tumor; in two, there was distinct local atrophy; in one there was fibrillary twitching. In none was the spinal complex complete; sphincter paralysis was absent and paralysis was slight or wanting. But these symptoms are frequently missing when the tumor is demonstrable; not so anesthesia. Consequently, it seems to Bailey, as though absence of anesthesia should constitute the final contraindication to operation. To this general rule there is one notable exception, namely, the tumors of the cauda equina growing in the sacral canal. These slowly growing and excrutiatingly painful tumors can exist for months or even years without interfering with sensibility. A number of such cases successfully operated on, are on record. In all of these preoperative diagnosis was certified to by excessive tenderness and sensitiveness in the sacrum, demonstrable by pressure externally and per rectum. This latter symptom, namely, bone tenderness, is so pronounced in these cases that the patients cannot lie on the back or stand the slightest jar

without extreme pain. The bone tenderness is so characteristic that it in itself is almost sufficient to justify the diagnosis of tumor. Coupled with some spinal symptoms, the diagnosis is certain even in the absence of anesthesia.

171. **Spinal Cord Tumor.**—In these three cases a phenomenon was observed by Krauss during the course of these operations, which he thinks may be of some service in locating the situation of the tumor after the dura has been exposed, provided the tumor is intradural, or intramedullary. The increased bulk of the cord produced by an intradural or intramedullary tumor will completely occlude the lumen of the dura and interrupt the passage or flow of the cerebrospinal fluid. There will result a damming back of the cerebrospinal fluid cephalad of the constriction and an increased tension will follow. Caudad of the constriction (tumor) the cerebrospinal fluid will be diminished in tension, owing to the cutting off of the normal tension and circulation. Incising the dura cephalad of the tumor will cause a spurting of the cerebrospinal fluid, a jet being projected from several inches to a foot or more in height, according to the tension or force of the fluid; while caudad of the tumor, an incision into the dura, will cause only a welling out of the fluid from the aperture, flooding the field of the operation without any force or tension. Observing the behavior of the fluid, the surgeon will know whether he is cephalad to the tumor or caudad to it, and can make his incision accordingly.

172. **Henoch's Purpura with Spinal-Cord Symptoms.**—The problems to be solved in Howland's case are (1) whether it is a case of purpura in which spinal-cord hemorrhages are present, and is a painful elbow due to a local joint hemorrhage or to the spinal hemorrhage? Or (2) is it a case of syringomyelia accompanied by its quota of sensory signs and joint conditions? And (3) what relation is there between the syringomyelia and the purpura?

173. **Ankle Clonus in Major Hysteria.**—The diagnosis of hysteria in this case rested on the character of the convulsive seizures; the spinal and submammary tenderness; the mental condition of the patient; the paralysis of the left arm; together with the rapid improvement of all these symptoms under treatment appropriate for major hysteria. This improvement was coincident with the enforcement of a treatment consisting of strict isolation and systematic and studied neglect of the patient. As to the ankle clonus, when this patient was first examined, the evidence strongly pointed to the diagnosis of hysteria, except for the presence of the ankle clonus, which is always looked on as an expression of an hysterical state; and this view is borne out by the complete disappearance of the ankle clonus two weeks later, during which period the patient had in every way greatly improved and by complete recovery under a strict antihysterical treatment.

Archives of Ophthalmology, New York

March

174 Value of the Serodiagnosis of Syphilis in Ophthalmology. M. Cohen, New York.
175 Quinin-Blindness: Report of Cases. G. E. de Schweinitz, Philadelphia.
176 Ophthalmia Nodosa. F. W. Marlow, Syracuse.
177 Surgical Treatment of Trachoma by the Combined Excision of Helsrath and the Tarsal Resection of Kuhnt. H. W. Wootton, New York.
178 Enucleation Necessitated by Getting into the Conjunctival Sac the Point of an Aniline Pencil. J. Dunn, Richmond.
179 A Modified Sideroscope. W. K. Gzn, Leyden, Holland.
180 Adenocarcinoma of the Pituitary Body: Case Under Observation for Four and a Half Years: Pathologic Examination. W. T. Shoemaker, Philadelphia.

Journal of Biological Chemistry, Baltimore, Md.

March

181 The Purin Ferments of the Rat. A. Rohde and W. Jones, Baltimore.
182 The Salts of Cytosine, Thymin and Uracil. V. C. Myers, New Haven, Conn.
183 *The Presence of Iodin in the Human Pituitary Gland. H. G. Wells, Chicago.
184 The Physiologic Behavior of Iminoallentoïn and Uroxanic Acid. T. Saiki, New Haven, Conn.
185 *Nylander's Reaction. M. E. Rehfuss and P. B. Hawk.
186 *Nylander's Reaction in Presence of Mercury or Chloroform. M. E. Rehfuss and P. B. Hawk.
187 Effects of Soluble Salts on Insoluble Phosphates. J. E. Greaves, Salt Lake City, Utah.

183. **Iodin in the Pituitary Gland.**—Wells concludes from his own analyses and others that the presence of iodin as a normal constituent of the pituitary gland must be regarded as unproved. The positive results obtained by Schnitzler and himself have been due to the therapeutic presence of iodin, although it still remains possible that the hypophysis may at times contain appreciable quantities of iodin due to a selective affinity for iodin similar to that of the thyroid.

185. **Nylander's Reaction.**—Rehfuss and Hawk regard Nylander's reaction as one of clinical value. In the examination of over 700 urines there were only 2 instances in which Nylander's reaction was positive and Fehling's test negative. The statement of Kistermann that any protein-free urine of acid reaction which gives a negative Nylander's test may safely be said to be sugar-free in a clinical sense seems to be justified. In making the test, 5 c.c. of the urine under examination are placed in a test tube, 0.5 c.c. of Nylander's reagent are added and the tube placed in a boiling water bath for five minutes. The authors use a large porcelain bath, the bottom of which forms an admirable background for observing and comparing the various color changes. The tube is then removed and examined before a white background. A black end-reaction indicates the presence of a reducing sugar in the urine under examination.

186. **Influence of Mercury on Nylander's Reaction.**—Rehfuss and Hawk have investigated the influence of mercury in the urine on Nylander's reaction and find that it has no inhibitory action, either when added to the urine in small amounts (0.005 per cent.) or when excreted in the urine by syphilitic patients receiving mercury. They also found that the presence of chloroform in the urine will not prevent the obtaining of a positive Nylander's reaction when dextrose is present. In case an excessive amount of chloroform is present, it should be removed by subjecting the urine to a preliminary boiling for a period of five minutes before applying the test.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

April 16

1 *Localization of Cerebral Function, based on the Clinico-Pathologic Study of Mental Disease. J. S. Bolton.
2 Surgery of the Lymphatic System. W. S. Handley.
3 Lumbar Puncture in Meningitis and Allied Conditions. G. S. Landon.
4 *Sterilization of the Skin by Alcoholic Solution of Iodin. H. F. Waterhouse and W. S. Fenwick.
5 Embolism of the Abdominal Aorta with Mitral Stenosis and Thrombosis of the Pulmonary Veins; Death; Necropsy. S. P. Phillips.
6 Bile-Producing Primary Malignant Tumor of the Liver ("Malignant Adenoma"). F. P. Weber.
7 Epidemic Cerebrospinal Meningitis, Treated by Flexner and Jobling Serum; Recovery. J. J. Weaver.
8 *Occurrence of a Peculiar Protein in the Urine. J. Henderson.

1. **Localization of Cerebral Function.**—In this lecture Bolton records his observations with regard to the structure and functions of the final type of cortex, the pre-Rolandic or psychomotor. Bolton regards the human cerebrum not as a sensorimotor, but as an intermediate, or associative ganglion, which, on the one hand receives sensorial impressions and elaborates them by processes of association into the physical equivalents of psychic products of high complexity, and which, on the other hand, to a variable extent, controls, selects and coordinates certain of these physical complexes whose function is to set in action the lower motor centers. On this functional basis he would divide the cerebrum into pre-Rolandic and post-Rolandic portions, the former of which possesses controlling and executive functions, and the latter receptive and elaboratory. He subdivides the pre-Rolandic part, or frontal lobe into a posterior or psychomotor area, which is concerned with the evolution of such physical complexes as are necessary to give external expression to the results of cerebral association, and into an interior or prefrontal area which is able to control, select and coordinate certain of the results of post-Rolandic cerebral association, and either to allow these to undergo psychomotor transformation or to inhibit this process. The cortex of the post-Rolandic portion of the cerebrum Bolton regards as consisting of projection areas, of which the visuosensory area is a type, each of which is surrounded by or

possesses in its proximity zones of special association, of which the visuo-psychic region is a type, which zones are hall-marked in function according to their appropriate projection areas; and of intermediate cortex in which are fused and elaborated the results of special processes of association.

4. Sterilization of the Skin.—Waterhouse employs a 2 per cent. solution of iodin in rectified spirit, painting this solution on the skin 2 hours prior to the operation, the preliminary shaving and any necessary washing of the skin having been performed some time earlier in order to allow the skin to dry. For greater security in important cases, he repeats the painting one hour later on the operating table. In radical operations for hernia in small boys when it is always difficult to keep the penis under cover he invariably paints the whole organ and scrotum with the 2 per cent. iodin solution and leaves them uncovered with a full sense of security. In cases in his experience in which it appeared probable that the skin incision might be infected by discharge from a hollow viscus —e. g., colotomy and cholecystotomy—it was found advisable to paint the line of incision with the 2 per cent. iodin solution each time the wound was dressed. The incision was then covered by dry cyanid gauze. Though this frequent painting might be carried out twice daily for from 4 to 6 days no interference with the healing of the incision was noted. Comparing the iodin method with that still in common use, Fenwick is convinced that the former is more easily carried out, takes less time, is less unpleasant to the patient, and gives better results than the latter.

8. Peculiar Protein in the Urine.—The diagnosis in the case cited by Henderson was doubtful. The striking features were anemia, cachexia and wasting, and the condition of the urine. Careful and repeated examination of the patient failed to detect any evidence of malignant disease, the presence of which was at first suspected. There was no evidence of disease of the bones. The blood presented the characters of a fairly severe secondary anemia. The case was regarded as one of chronic nephritis of some standing, and probably of the "diffuse" variety, accompanied by a considerable degree of anemia and a peculiar urinary condition.

To the naked eye the urine presented nothing abnormal. Its color was pale amber, its reaction distinctly acid, and it had a specific gravity of 1015. On subjecting it to the ordinary heat test for albumin an abundant white curdy precipitate was at once obtained. This precipitate was completely dissolved on the addition of one drop of 20 per cent. acetic acid. The precipitate had no resemblance to that of phosphates, which is frequently found on performing this test. On contact with nitric acid in the cold, a copious, thick, white precipitate was obtained which disappeared on warming, to reappear on cooling. From these results it was evident to Henderson that he had to deal with a protein other than ordinary globulin. All the ordinary protein tests were obtained—marked biuret, Millon, marked Liebermann, and tryptophane reactions, and on boiling the urine with lead acetate alkaline solution it blackened. The protein was precipitated by all the ordinary reagents which precipitate proteins—viz., trichloracetic, tannic, and picric acids, etc. The protein was fully precipitated on half saturation with ammonium sulphate. After filtration this precipitate was dialyzed against running water, and the product left in the sausage paper behaved quite as in the original urine. The ammonium sulphate precipitate was further dialyzed till free from salt, and it again showed the same properties. The material obtained from this salt-free product, either taken down to dryness *in vacuo* at a low temperature or precipitated with alcohol and dried, was found to be a whitish-grey powder, ash-free, and when in solution it possessed all the properties of the original body in the urine.

British Medical Journal, London

April 16

9 *Ideals in Psychiatry. E. Goodall.
10 *Cardiolysis. H. T. Bewley.
11 The Board of Trade Sight Tests. A. R. Galloway.
12 Phlyctenular Diseases of the Eye. S. Stephenson and J. A. Jamieson.
13 *Series of Cases of Congenital Ophthalmoplegia Externa (Nuclear Paralysis) in the Same Family. H. Cooper.
14 Mucocele of the Nasal Sinuses, and Its Complication by Optic Neuritis. R. Fullerton.
15 Successful Rhinoplasty in an Old Woman. S. White.
16 Inequality of the Papilledema in Certain Cases of Increased Intracranial Pressure. R. L. Ley.
17 Ossification in the Brachialis Anticus Following Injury to the Elbow. W. Tyson.
18 *Case of Poisoning by Camphorated Oil. F. Barker.
19 *Treatment of Varicose Veins of the Leg by Avulsion. H. D. O'Sullivan.
20 *Surgery of the Lymphatic System. W. S. Handley.
21 *A New Aspect of the Effects of Boric Acid as a Food Preservative. J. Bernstein.

9. Ideals in Psychiatry.—The chief features of a psychiatric clinic, according to Goodall, consist in suitably designed wards and exercising grounds, an out-patient department, rooms for hydrotherapy and electrotherapy, massage and gymnastics, a lecture theater, a consultation room for the medical staff, where cases, as admitted can be discussed, and lines of treatment or research agreed on, where also there can be medical reunions, with discussion of recent developments in research. There should be a medical library, a laboratory for clinical examinations, and others for pathology, biochemistry, and experimental psychology. The medical staff should consist of a director without administrative duties (but the steward who performs these would be subordinate to him); of paid assistants in good proportion; resident physicians on an honorarium, attached for training in mental disorders and who would assist in the work generally, experts in charge of the different laboratories. Qualified medical men should be allowed to conduct research in these. There should be the usual lectures and clinical and laboratory courses for students, courses and demonstrations for postgraduates, and courses in forensic psychiatry for the instruction of law students. The nurses should be in high proportion, say one to five patients. It is highly important that as few legal formalities as possible be observed in regard to the admission, detention and discharge of patients, and that the director be accorded a free hand in respect to treatment. In all cases of doubt and difficulty the psychiatric clinic would have the advantage of the advice and assistance of those in charge of the other clinics of the university or hospital. Such a clinic would be the natural training place for students who proposed to take up mental disorders as a specialty, and for those who seek a diploma in psychiatry, such as many are now advocating.

10. Cardiolysis.—When the ribs or sternum, or both, are distinctly moved up by each systole of the heart, Bewley holds that this movement may be looked on as the heart's prayer for more room. One cannot cure the leak nor wholly remove the internal extra work, though by rest and appropriate treatment we endeavor to lessen it; but the external extra work Bewley thinks can be removed by giving the heart space enough from before backward so that it may not be forced to move unyielding structures at each systole—that is to say, by resecting several ribs, and, if necessary, a part of the sternum. For such cases he believes cardiolysis will be found of very great use and if the condition of the patient is sufficiently good, one should seriously consider the advisability of the operation.

13. Congenital Ophthalmoplegia Externa.—In Cooper's case the patient's father, grandfather and great grandfather were born with the same affliction but had no squint, the paralysis being complete save for the internal ocular muscles. His father had two uncles, one affected, one not. He had two aunts, neither of whom was affected. The father also had two brothers, one affected, one not. The patient also had a younger brother who was affected slightly. Three other brothers and one sister are well. It is interesting to note that no female member of the family has been affected; no case has ever developed after birth, but all have been congenital. The ptosis has been almost complete in all cases, except that of the patient's youngest brother, who is the first of the series in whom the affliction has appeared in a lesser degree.

18. Poisoning by Camphorated Oil.—A female child, 1 year and 4 months old, swallowed at least half an ounce of camphorated oil, so that about one dram of solid camphor in solution was probably taken. The father found the child with its mouth full of oil. He promptly turned her over and she vomited. One hour later she vomited again. The eyes gradually became staring, she moaned, and convulsions began. She was then given some salt and water, and vomiting occurred. Barker saw her two hours after she took the oil.

There were marked convulsions, with irregular breathing, flushed face and profuse perspiration; the pulse was rapid, the pupils were moderate and equal in size and inactive to light, and there was no conjunctival reflex. The breath did not smell of camphor and the mouth was not sore. The baby was put in a hot bath, with cold cloths to the head. The stomach was washed out with warm water until quite clear of oil and débris. Remedies seemed to have little or no effect. Chloral hydrate (3 grains) by the rectum, small doses of potassium bromid by stomach tube and by rectum, hot milk and water similarly given, and brandy were tried.

About midnight Barker gave chloroform cautiously, and with even the most sparing dosage, the fits were to some extent controlled. But they became periodic and in the intervals the breathing was so markedly stertorous, and the face more cyanosed than before, that he ceased giving the anesthetic. While giving chloroform the fits were heralded by a flickering of the eyelids, the spasms spreading to the abdominal and back muscles, and then to the extremities. There was usually at first conjugate deviation of the eyes and drawing of the mouth to the left, followed by the turning of the eyes and mouth to the right. On ceasing the chloroform the convulsions became more continuous but were not so violent, the breathing was decidedly better, and the face a more natural color. Later there was a slight return of conjunctival reflex. About 5 a. m. collapse set in and the baby died about 12 hours after having taken the oil.

19. **Treatment of Varicose Veins.**—The novelty of O'Sullivan's operation lies in the complete extirpation of the affected veins through small incisions. In one case about 25 inches of vein were removed through incisions of the total length of 7 inches.

20. Published in *The Lancet*, April 16, 1910.

21. **Boric Acid as a Food Preservative.**—Bernstein found by experimentation that boric acid to the extent of 0.3 per cent. (20 grains to the pound) prevents objective decomposition, such as is detectable by smell. If objective putrefaction has commenced, it inhibits further changes of this kind possibly leading to diminution in the smell. It has a marked selective activity on the various organisms, inhibiting the growth of yeasts and organisms of the *proteus* group, and possibly other harmless saprophytes, though not the organisms of the *coli* group. Hence it seems obvious with the aid of boric acid, stale meat can be used for the making of sausages, and even meat that has already started decomposing. If, then, to such meats Gaertner's bacillus has obtained access, it will have had several days at least in which to grow, and, what is important, unhindered by the prolific saprophytes.

Medical Press and Circular, London

April 6

22 Clinical Forms of Scapulalgia. Prof. Kirmisson.
23 Pregnancy and Labor After Ventrofixation of the Uterus (Hysteropexis Hypogastrica). W. Sinclair.
24 Suction Treatment of Mammary Abscess. J. M. Graham.
25 The Muriated Iodobromin Baths of Salsomaggiore, North Italy. J. J. Eyre.

Clinical Journal, London

April 6

26 Mediastinal Tumors. J. H. Abram.
27 Diagnosis of Talipes or Clubfoot. R. P. Rowlands.
28 Geographic Distribution and Etiology of Cancer. F. M. Sandwith.

Journal of Obstetrics and Gynecology, London

March

29 *After-Results of Abdominal Operations on the Pelvic Organs: 1,000 Consecutive Cases. A. E. Giles.
30 *Intramural Cysts of the Uterus. E. B. M. Haarbleicher.
31 Results of Ligature of the Fallopian Tube in the Rabbit. A. L. McIlroy.
32 Carcinoma of the Cervix of a Prolapsed Uterus in a Patient aged 86, with a Contact Carcinoma on one Labium: Vaginal Hysterectomy. H. R. Andrews.

29. **After-Results of Pelvic Operations.**—Giles holds that operations for the removal of the appendages of one side have no detrimental effect on the general health, the cases in which ill-health could be traced to the operation numbering not more than 5 per cent. About 90 per cent. of his patients were actually better after the operation than they were before. The relief of symptoms is well-marked after these operations, he states; about 87 per cent. of patients were free from pain afterward or experienced less pain than before the operation, while a further 5 per cent. were free from pain for a time and developed pain later from other causes. Dyspareunia, dysmenorrhea, menorrhagia and leucorrhea were relieved in a number of cases. The removal of the appendages of one side was followed by irregularity, diminution or cessation of menstruation in a small number of cases (8) and in 6 there followed a diminution of the sex instinct. Giles says that the chances of the disease developing in the remaining ovary and tube are not very great; such a recurrence took place in about 10 per cent. of cases. Consequently, in view of the definite value of the remaining ovary and tube it is always worth while preserving them when they appear to be healthy. Soiling of the peritoneal cavity with the contents of an ovarian cyst favors the occurrence of later disease and therefore the interests of the patients are safeguarded by the removal of these cysts (however large) intact, without tapping.

The remaining tube and ovary have a considerable value from the point of view of subsequent pregnancy; 33 patients, or 25 per cent. of the married women under 40, became pregnant. Of these 19 had full-term deliveries (some repeated), 5 had miscarriages, and 7 had extrauterine pregnancies, while 2 were pregnant when seen. It would appear that after the removal of appendages of one side there is greater liability to the occurrence of extrauterine pregnancy than is the case with normal women. The 19 women who had full-term pregnancies, bore, between them, 25 children; and 4 more children were born at full term when ovariotomy was undertaken during pregnancy. A study of the sex of these children in relation to the side on which the remaining or active ovary was situated definitely refutes the theory that the right ovaries produce boys and the left ovaries produce girls; it shows clearly that there is no relation between the side from which the ovum is derived and the sex of the child.

30. **Uterine Cysts.**—Haarbleicher shows that intramuscular cysts of the uterus do exist. They are found in all parts of the uterus—near the cornua, near the fundus, in the body, at the junction of the body and the cervix, and in the cervix or the left or right, in front or behind. The volume of these cysts is usually so small that they are only found as objects of pathologic interest at a postmortem, or in specimens removed by operation, but apparently they may reach a considerable size and attract clinical attention. The epithelium may be well-defined, ciliated or non-ciliated columnar cells, or represented merely by a smooth internal lining or not demonstrable at all. They may contain pavement epithelium. These cysts may be of congenital origin. They may be acquired. The frequent occurrence of abundant hemorrhage noticed in some cases is probably to be attributed as suggested by Robert Meyer to concomitant vascular lesions (arteriosclerosis, fatty degeneration and increased blood-pressure). The cysts do not appear to be in any case the only pathologic conditions present, though in some cases the condition of the appendages is not mentioned. In no case reported was the character of the cyst diagnosed before operation or death. In 2 cases the patient's life might have been spared had the condition been recognized directly the abdomen was opened.

Quarterly Journal of Medicine, Oxford, Eng.

January

33 Importance of Optic Neuritis and Retinal Hemorrhages in Diagnosis of Chronic Septic Endocarditis. A. W. Falconer.
34 Partial Heart-Block Occurring During an Attack of Acute Rheumatism. J. Cowan, J. W. McLeod, and A. R. Paterson.
35 Rat-Bite Fever. T. J. Horder.
36 Case Showing a Greatly Lengthened A-C Interval with Attacks of Partial and of Complete Heart-Block, with an Investigation of the Underlying Pathologic Conditions. T. W. Griffith and A. E. Cohn.
37 Cerebrospinal Fluid in the Infective Diseases of the Meninges, Especially Cerebrospinal Fever. A. Connal.
38 Intermittent Hydrarthrosis. A. E. Garrod.
39 Lactic Acid in Metabolism. J. H. Ryffel.

Annales de Gynécologie et d'Obstétrique, Paris

March, XXXVII, No. 3, pp. 129-192

40 Influence of Breast Feeding on the Final Stature. (Influence de l'allaitement sur le développement définitif de la taille.) V. Wallich.
41 Obstetric Importance of Septum in Vagina. (Le cloisonnement du vagin au point de vue obstétrical.) C. Sauvage.
42 Ovarian Ingrafts. (Les greffes ovariennes.) L. Sauvé.

Archives Générales de Chirurgie, Paris

March, IV, No. 3, pp. 221-330

43 Perivascular Symmetrical Lipomas. L. Delrez.
44 *Parathyroid Treatment of Fractures. L. Morel.
45 Traumatic Lesions of the Meniscus of the Knee. (Lésions traumatiques des ménisques articulaires du genou.) P. Gorse.
46 Colopexy to Complete Operations for Uterovaginal Prolapse. P. Mauclaire.

44. Parathyroid Treatment of Fractures.—Morel concludes from a long series of experiments on rabbits and cats that parathyroid gland in substance or parathyroid extract has a notable influence on the growth of bone and on the healing of fractures in the young organism, but that there is no influence apparent in this respect in older individuals. The results observed suggest, he says, that the healing of fractures in children might be promoted by parathyroid treatment.

Archives des Maladies du Cœur, etc., Paris

March, III, No. 3, pp. 145-208

47 *The Third Heart Sound. (Quelques remarques sur le troisième bruit du cœur.) W. S. Thayer.
48 Apparatus for Graphic Registration of Arterial Pressure in Health and Disease. (La pression artérielle à l'état normal et à l'état pathologique, mesurée par un procédé graphique.) R. Wybauw.
49 *The Plasmodium of Malaria. (Plasmodies du paludisme.) J. Sabrazès.

47. This article appeared in the *Archives of Internal Medicine*, October, 1909, and was abstracted in THE JOURNAL, Nov. 6, 1909, page 1595.

49. The Plasmodium of Malaria.—Sabrazès describes a technic for staining the plasmodia and directs attention to their apparent inability to penetrate into the granulated red corpuscles and the importance of this fact for the regeneration of the blood after the malarial attack.

Bulletin de l'Académie de Médecine, Paris

April 5, LXXIV, No. 13, pp. 333-349

50 Accidental Contamination with Tubercle Bacilli of Meat from Non-Tuberculous Animals. (Rôle des viandes non tuberculeuses dans la diffusion de la tuberculose.) G. Linossier and G. H. Lemoine.

Grèce Médicale, Syra, Greece

XII, Nos. 3-4, pp. 5-8. Last indexed April 16, p. 1342

51 Syphilis of the Spinal Cord Assuming the Form of Lateral Amyotrophic Sclerosis. C. T. Manthos.

Lyon Chirurgical, Lyons

April, III, No. 4, pp. 357-482

52 *Elephantiasis in Cancer and Acute Carcinosis. E. Tédenat and J. Martin.
53 Fractures in the Malleolar Region. E. Destot. Commenced in No. 3.
54 Two Cases of Genu Valgum in the Adult. J. Rebattu and J. Magdinier.
55 Trophic Disturbances in the Legs Consecutive to Old Fracture of the Pelvis. (Troubles trophiques du membre inférieur consécutifs à une fracture ancienne du bassin.) G. Cotte and J. Gaté.

52. Elephantiasis in Cancer.—Tédenat and Martin report a case of cancer of the rectum in which the legs and lower part of the trunk developed induration and enlargement suggesting elephantiasis; the patient was a man of 55. The same tendency was apparent in a number of other cases, the clinical and autopsy findings suggesting that when such is observed in coincidence with internal epithelioma it indicates extensive diffusion of the malignant disease, contraindicating operative measures as liable merely to aggravate conditions. In some of the cases the tendency to "pig's skin" with remote scattered nodules was observed with epithelioma of the breast; in another case the indurated edema over the body was secondary to epithelioma of the uterus.

Obstétrique, Paris

March, III, N. S., No. 3, pp. 261-288

56 *Serotherapy of Albuminuria. (Valeur du sérum de sang de la veine emulgente de la chèvre dans le traitement de l'albuminurie gravidique.) R. Daunay and P. Lequeux.

56. Serotherapy of Albuminuria in Pregnancy.—Daunay and Lequeux report their experiences with treatment of nephritis by injections of serum derived fro the blood taken from the afferent vein of the goat kidney. By this means they hoped to obtain the internal secretion of the kidney. In the three cases reported the effect of the serotherapy in inducing diuresis was marked and the albuminuria diminished while the granulated red corpuscles increased after each injection. The best results were obtained in a case of old chronic, possibly tuberculous, nephritis which had flared up under the influence of the pregnancy. The blood pressure always dropped after the injection but gradually rose again, although never to the same height as before. In the two other cases it proved impossible to arrest the progress of the uremia and the patients died.

Presse Médicale, Paris

April 6, XVIII, No. 28, pp. 249-256

57 *Exophthalmic Goiter and Pregnancy. (Maladie de Basedow et grossesse.) E. Bonnaire.

April 9, No. 29, pp. 257-264

58 *Technic and Results of Thymectomy. (Ablation du thymus.) V. Veau and E. Olivier.
59 *Clinical Signs of Enlargement of the Thymus. M. d'Oelsnitz.

57. Exophthalmic Goiter and Pregnancy.—Bonnaire reports two cases in which exophthalmic goiter developed during pregnancy. There was first simple enlargement of the thyroid in one case; later, after exposure to chilling, the exophthalmic symptoms became apparent, with sudden paralysis of the right heart entailing pulmonary edema. These alarming symptoms subsided after venesection and delivery was then induced, the pregnancy being almost at term. The uterus retracted normally at first, but three hours later there was threatening hemorrhage until the inertia was conquered by the usual means. Examination a few weeks later revealed persisting dilatation of the right heart, exophthalmos, enlarged thyroid, tachycardia and leucoderma. In the other case the thyroid became suddenly enlarged at the seventh month, threatening suffocation, and there was intermittent tachycardia. Introduction of the inflatable bag into the uterus induced a few contractions and this alone seemed to arrest entirely the tendency to dyspnea. The pregnancy continued to term without further trouble except for several violent attacks of hysteria. There was no exophthalmos, but he regards the case as an unmistakable incomplete form of the Basedow syndrome. The phenomena observed in these cases confirm, he declares, the assumption that the "Basedow accidents" are the result of some neurosis of the sympathetic system or some lesion of the nerve centers. Both the patients had been previously healthy; the first was a iii-para, the other a primipara.

58. Thymectomy.—Veau and Olivier give an illustrated description of their technic for subtotal subcapsular thymectomy for hypertrophy of the thymus. They have performed the operation in four cases to date, and this experience, with the cases in the literature, confirm, they state, the facility, the harmlessness and the good results of thymectomy. The questions still pressing for solution are: how can hypertrophy of the thymus be recognized? and, what are the operative indications?

59. Clinical Signs of Hypertrophied Thymus.—The functional symptoms and physical signs of enlargement of the thymus are reviewed as observed in six cases. The children were between 6 months and 3 years old; one succumbed before clinical examination during an emergency tracheotomy. In the other cases the enlargement was suspected from the combination of physical signs, and operative treatment in one case and autopsy in another confirmed the assumption. The suffocative breathing differs from that of croup in that the chest changes its shape during inspiration, the sternum protruding, the transverse diameter diminishing and the circumference below increasing. The dyspnea is also exaggerated by reclining and by hyperextension of the head. In some of the cases the first symptoms were those of laryngismus stridulus, so that it is advisable in every case of persisting and intense laryngismus stridulus to examine for possible enlargement of the thymus. The temperature was high in some cases; probably some intercurrent infection had modified the size and consistency of the thymus gland, adding to the natural tendency to trouble from this source. In two cases there was slight persisting cyanosis of the face and in one

abnormal tension in the fontanelle, with constant torpor in both suggesting congestion of the brain and disappearing after thymectomy. The superficial veins in the neck also become engorged as the child cried. An important sign, the author states, is the protuberance of the chest at the manubrium and first two costal cartilages on the right side. This asymmetrical protuberance was very marked in one case and was evident in all. The best way to detect it is to inspect the sternum with the eye at its level, with the child lying on its back, inspection being supplemented by palpation. The finger inserted from above, behind the sternum, relieved the child's breathing in the one case in which this was done, suggesting that this may be useful in diagnosis. With radiography the abnormal shadow was on the same side as the protuberance and dulness. Auscultation is not of much help except in excluding other respiratory affections. Intubation failed to relieve the breathing in the case in which it was done and severe syncope followed. A tendency to syncope was also observed during tracheotomy in another case and it proved fatal in a case reported by Simon in 1902. The venous hemorrhage was exceptionally profuse with these tracheotomies and the inflow and outflow of the air were gentle and noiseless. The tracheotomy, however, answers the purpose even without resection of the thymus sometimes, evidently from relief of the congestion and the changes in the consistency, size and position of the thymus. In the one case in which part of the gland was resected, the amount was too small to explain all the benefit derived, except by assuming the cooperation of the above factors.

Semaine Médicale, Paris

April 13, XXX, No. 15, pp. 168-180

60 Multiplicity of Pathologic Anatomic Changes in Pneumonia with Splenization of the Lung. (Splénopneumonies.) J. Sabrazès.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVI, No. 1, pp. 1-69. Last indexed April 23, p. 1414

61 *The Laws of the Tuberculin Cutaneous Reaction and Its Application in Standardization of Tuberculin. (Das Gesetz der kutanen Tuberkulinreaktion.) V. Ellermann and A. Erlandsen.

62 *Subfebrile Temperature in Diagnosis and Treatment of Pulmonary Tuberculosis. M. Engländer.

63 Practical Experience with the Intradermal Tuberculin Reaction in Pigs and Cattle. (Praktische Erfahrungen mit der intrakutanen Tuberkulin-Reaktion bei Schweinen und bei Rindern.) G. Martin.

64 Combined Technic for Staining Tubercle Bacilli. (Versuche über die zuverlässigste Färbung der Tuberkelbazillen.) S. Hatano.

61. The Laws of the Cutaneous Tuberculin Reaction.—Ellermann and Erlandsen have found that the diameter of the papule is proportionate to the concentration of the tuberculin. (Their quantitative, titration method of applying the test was mentioned in THE JOURNAL, April 17, 1909, page 1300.) The diameter of the papule increases by 1 mm. with a concentration increasing by multiples of 2, from 2 mm. with 1 per cent. tuberculin to 7 mm. with 32 per cent., and they show how this law can be applied in standardization of tuberculin.

62. Subfebrile Temperatures in Diagnosis of Tuberculosis.—Engländer presents evidence to show that the temperature becomes variable as one of the earliest signs of tuberculosis, before there is any other manifestation of the disease. This instability is revealed in the subfebrile temperatures that may be observed during repose and after exercise. He has worked out the temperature standards in health on a number of soldiers and others, accepting as the standard from 36 C. to 36.3, up to 36.6 C. (96.8 to 98 F.) on arising in the morning; 37 C. to 37.2 C. (98.6 to 99 F.) between 10 and 12 a. m.; in the afternoon at 5 p. m., 37.5 C. (99.5 F.). The ideal would be for each person to determine the specific individual standard for his temperature at these times, then it would be easy to recognize any tendency to a subfebrile temperature. It is important to compare the temperature only with the standard for the given hour. Engländer, himself, has a morning temperature of 36.3 C., with a maximum of 37.4 C. in the afternoon. Any increase in these figures for the given hour is pathologic for him, although the figure even then is below the normal standard. He determines the temperature by the urine, regarding this as by far the most convenient and reliable technic for taking the temperature outside of the rectum. (His method was described in THE JOURNAL, March 23, 1907, page 1049.) The difference between the urine temperature and the temperature of the axilla parallels that of the rectal temperature, but the urine technic is much easier for the general practitioner.

Berliner klinische Wochenschrift

April 4, XLVII, No. 14, pp. 613-660

65 Nutrient Suppositories instead of Enemas for Rectal Feeding. (Ueber Nährsuppositorien.) I. Boas.

66 Implantation of Periosteum and Bone Flap to Remedy Defect in Femur. (Ueber eine Periost-Knochentransplantation in einen durch Resektion verursachten Femurdefekt.) M. Katzenstein.

67 Vaginal Ovariotomy during Delivery and Simplified Vaginal Cesarean Section; Slitting the Cervix over the Metreurynter. (Metreurynterschnitt.) A. Dührssen.

68 Etiologic Treatment of Obesity. (Neuere Gesichtspunkte bei Entfettungskuren.) G. v. Bergmann.

Deutsche medizinische Wochenschrift, Berlin

April 7, XXXVI, No. 14, pp. 641-688

69 Accumulation of Gas (Air) in the Body, and Treatment. (Ueber Gas-[Luft] Ansammlung im Leibe und ihre Behandlung.) C. A. Ewald.

70 Etiology of Epidemic Poliomyelitis. (Zur Aetiologie der akuten epidemischen Kinderlähmung.) P. Krause and E. Meinicke.

71 *Importance of Diaphragmatic Breathing with Weakness and Insufficiency on the Part of the Heart. (Bedeutung der Zwerchfellatmung für Herzschwäche und Herzinsuffizienz.) F. Rumpf.

72 Action of Mercury and Iodin in Experimental Syphilis. (Wirkung des Quecksilbers und Jods bei der experimentellen Syphilis.) E. Tomaszewski.

73 *Estimation of Secretory Functioning in Roentgen-Ray Examination of the Stomach. (Zur Diagnostik der sekretorischen Funktion des Magens mittels des Röntgenverfahrens.) E. Schlesinger.

74 *Physical Measures in Treatment of Sciatica. (Zur Ischiasbehandlung und zur physikalischen Therapie.) F. Klug.

75 *Treatment of Puerperal Mastitis. M. Hirsch.

76 Suction Hyperemia in Ear, Nose and Throat Disease. A. Eitelberg.

77 Limitations of Cobra-Venom Hemolytic Reaction. (Grenzen der Leistungsfähigkeit der Cobragiftmethode.) W. Beyer.

71. Importance of Abdominal Breathing in Case of Weakness and Insufficiency of the Heart.—Rumpf has been teaching for years that greater attention should be paid to regulation of breathing with heart disease. The art of breathing properly should be emphasized; especially in heart disease costal breathing should be suppressed as much as possible and abdominal breathing promoted. Roentgen-ray examinations show that with abdominal breathing the lungs follow the diaphragm downward, with traction on the apex of the heart, pulling it more toward the vertical line. This checks the tendency to dilatation. The Roentgen rays show how the left outline of the heart is drawn inward and down, thus making the left heart smaller, and in some cases also the right. The contents of the abdomen are compressed and that part which can escape the pressure does so. In consequence of this, the contents of veins and lymphatics are forced upward into the chest and the circulation is relieved as the blood from lower regions thus finds its way upward more readily, facilitating the pumping action of the heart. The following relaxation of the diaphragm during expiration aids further in forcing the blood along in the veins—all these factors cooperating to facilitate the heart action. Systematic practice of diaphragmatic breathing is a valuable aid in all cases of cardiac incompetency or weakness with dilatation of the heart or danger of such. With emphysema and obesity, the thorax generally becomes enlarged as breathing is mostly thoracic. These and other facts cited explain, Rumpf declares, the favorable results of underfeeding in many forms of cardiac insufficiency, as with the Karell cure. It is possible that the relief obtained with supports for the heart is due to the resulting compression of the thorax, compelling abdominal breathing. The diaphragmatic breathing can be practiced while the patient is in bed.

73. Roentgen-Ray Estimation of the Secretory Functioning of the Stomach.—Schlesinger gives the findings in a number of cases to show that an intermediate zone of secreted fluid may be observed after the patient has taken the suspension of bismuth for Roentgen-ray examination. This intermediate zone seems to have been mostly overlooked to date, he asserts; it is missing in case of anacidity while it is pronounced with hyperacidity. In his examination of 100 patients normal secre-

tion was revealed by a medium-sized intermediate zone. The conditions in the secretion during the period of digestion can be followed with the fluoroscope.

74. **Treatment of Sciatica.**—Klug found a tendency to flatfoot in a large number of 150 patients with sciatica during the last year. In 15 out of 40 in-patients with sciatica, insoles for treatment of the tendency to flatfoot were successfully applied in 15 cases. The sciatica disappeared as the foot anomaly was corrected. He cites a few typical cases, among them that of a woman of 53 with a traumatic injury of the leg followed by sciatica rebellious to all treatment. Local hydrotherapy of the leg and a flatfoot insole restored almost normal conditions. Sciatica had persisted for months after the leg was otherwise normal but yielded almost at once to the use of the insole. He does not call the condition flatfoot but "sinkfoot," as the sciatica may develop before actual flatfoot is observed. He reports good results in treatment of sciatica with steam douches, fully 85 per cent. of patients being cured, he states, by this measure.

75. **Treatment of Puerperal Mastitis.**—Hirsch has applied Bier's stasis hyperemia in about 17 cases of puerperal mastitis, supplemented by radial incision in 5 other cases. He applied boric acid in substance to the incision and healing was complete in less than a fourth of the time than with other measures. He asserts that pulverized boric acid is a powerful but non-toxic disinfectant which dissolves in the warm secretions and penetrates all the crevices of the wound. He has long applied this technic for suppurating wounds and abscess cavities, filling the cavity with the boric acid and leaving it for a day or so.

Fortschritte der Medizin, Leipsic

March 24, XXVIII, No. 12, pp. 353-384

78 Causes and Characteristics of Pain in the Back. (Ueber Rückenschmerz.) von Criegern.
79 Giant Growth in New-Born Infants. (Riesenbildung beim Neugeborenen.) W. Krull.

Jahrbuch für Kinderheilkunde, Berlin

March, LXXI, No. 3, pp. 249-378

80 Symptom of Soap Production and Elimination of Bases in the Infant Intestine. (Ueber das Symptom der Seifenbildung und die Ausscheidung der Basen im Darm des Säuglings.) H. Bahrdt.
81 Purin Metabolism in Infants. I. (Ueber den Purinstoffwechsel des Kindes.) A. Niemann.
82 Research on the Metabolism to Determine the Influence of Salts on the Infant Organism. (Einfluss der Salze auf den Säuglingsorganismus.) E. Schloss.

Medizinische Klinik, Berlin

April 3, VI, No. 14, pp. 531-570

83 *Dietetic Treatment of Cholelithiasis. R. Kolisch.
84 Pathology of Cirrhosis of the Liver with Enlarged Spleen and Ascites. (Zur Pathologie der Bantischen Krankheit.) H. Luce.
85 Action of Hydrotherapy Applied to the Chest. (Wirkungen und Nebenwirkungen von Brustumschlägen.) G. Simmon.
86 *Difference in Evacuating Time of the Stomach as the Individual Lies on Right or Left Side, and Its Diagnostic and Therapeutic Importance. (Die Entleerungszeit des Magens in rechter und linker Seitenlage und ihre diagnostische und therapeutische Bedeutung bei Hypermotilität, Pylorusinsuffizienz, Atonie und Pylorusstenose.) A. Markovic and F. Perussia.
87 *Treatment of Progressive Paralysis. A. Steyerthal.
88 Advantages of Electric Incandescent Baths in Bronchial Asthma. (Weitere Erfahrungen über die Glühlichtbehandlung des Asthma bronchiale.) E. Tobias.
89 Estimation of Pentose in Urine. (Nachweis der Pentosen im Harn.) F. Blumenthal.

83. **Dietetic Treatment of Cholelithiasis.**—Kolisch has become convinced by years of experience with thousands of cases that dietetic measures are possibly most important of all in treatment of cholelithiasis. The aim in treatment is not to act on the stones but to combat the inflammation in the gall-bladder. His attention has been called to the hereditary nature of gall-stone disease, its regular association with constitutional anomalies connected with functional disturbances of the liver, such as gout and the uratic diathesis, and to the frequent development of cholelithiasis during pregnancy. Treatment, he states, should aim to avert everything liable to injure the already weak liver functioning; the diet should be regulated to spare the liver as much as possible and also to keep the intestines in good order, free from catarrhal processes or cure them promptly when such arise. He ascribes a large part of the benefit from the Carlsbad cure to the effect on the intestines; the connection between intestinal catarrh and gall-stone colic is unmistakable in many cases. The diet should avoid chemical, thermic or mechanical irritation of the stomach; the stomach should not be overloaded and food should not be allowed to stay long in it, especially during or following an attack. The food should be light and digestible, avoiding condiments and very acid foods, raw vegetables and fruit, fat that does not melt readily, fat and salted meat and food prepared with yeast or fermenting. Cold drinks should be avoided. Fat that is readily dissolved, such as oil, cream or butter, is useful and very nutritious while taxing the stomach very little and stimulating the digestive processes. The amount of albumin allowed should be small and fractioned in small amounts, avoiding all highly seasoned food and that containing much extractive and purin bodies. Hot drinks, he says, have as favorable action as hot cataplasms, but he advises the latter also, applied for two hours after dinner every day for two or three months, forbidding a drop of cold fluid for six months after the last attack, at least. He has applied a Bier suction bell to induce hyperemia in the region in certain obstinate cases, with good results. He advises abstention from sports of any kind for at least a year after the last attack, and he advises against horseback riding, driving over bad roads, lifting heavy weights and straining, saying also that gymnastics and massage should be discontinued during this time. A year is none too long for these measures to be kept up, he adds; the reward being a permanent latency of the gall-stone disease which well repays the effort required to refrain from taxing the liver and overexercising.

86. **Difference Between Time of Evacuation of the Stomach as the Individual Lies on the Right or Left Side.**—Markovic and Perussia call attention to the diagnostic and therapeutic importance of the difference in the time required for the stomach to empty itself with excessive motility, pyloric insufficiency or stenosis and atony, according as the individual lies on the right or left side. They emphasize that the findings with the individual standing do not give a correct idea of the conditions as well as when the individual is examined with the *x*-ray in various attitudes. Their research on healthy persons and on others with various gastric affections showed that the stomach emptied itself in from 2½ to 4½ hours as the person lay on the right side; lying on the left side, from 5 to 8 hours were required even in health. When the difference is unusually great, the stomach emptying itself very rapidly as the patient lies on the right side, there is generally pyloric insufficiency. On the other hand, when the difference is unusually small, owing to the more rapid evacuation as the patient lies on the left side, hypermotility may be assumed. With motor insufficiency from atony there is long delay before the evacuation when the person lies on the left side. With beginning pyloric stenosis the difference is slight, as the motor functioning is rather increased than diminished and thus, even reclining on the left side, the stomach content is forced to the pylorus much more readily and under higher pressure than in case of atony; the resistance of the pylorus is the same whether the individual lies on the right or left side. In a case of gastric cancer the stomach did not empty itself until after 5 hours on the right side and after 7 hours on the left, and the course of the case confirmed the assumption of cancerous stenosis.

87. **Treatment of Progressive Paralysis.**—Steyerthal appeals to practitioners and especially those at health resorts to search for the signs of progressive paralysis in the very earliest stages as he is convinced that, if the patient can be removed from his ordinary environment and his brain given a rest, it may be possible to ward off the development of the disease. He has encountered a number of cases in which the prognosis of incurability proved false, the patients recovering enough to resume business. The disease seems to be of a milder character now than heretofore, he asserts, assuming more the simple dement form, with a very slow and insidious course. So long as the patient is able to appreciate that he is not quite well and needs rest, there is reason to hope for improvement. Fürstner has reported eight cases in which the recovery of the patients and their resumption of business for a long number of years had convinced him that his diag-

nosis of progressive paralysis had been erroneous, but Steyerthal affirms that the trouble had probably been detected in its early stage and had yielded to appropriate measures.

Münchener medizinische Wochenschrift

March 29, LVII, No. 13, pp. 673-728

90 *Recognition and Treatment of Non-Perforated Duodenal Ulcer. M. Wilms.
91 Treatment of Varicocele. H. J. Lameris.
92 *Treatment of Exophthalmic Goiter. (Behandlung der Basedowschen Krankheit.) A. Kocher.
93 Improved Technic for Histologic Diagnosis of Tuberculosis. (Der Tuberkelbazillennachweis mittelst Antiformin und seine Verwendung für die histologische Diagnose der Tuberkulose.) H. Merkel.
94 Fate of Fat Acids in the Organism and Relations with Acetone Bodies. (Ueber den Abbau von Fettsäuren im Organismus und über die gegenseitigen Beziehungen der Azetonkörper.) L. Blum.
95 Connection between Plasmolysis, Digestibility, Solubility and Staining Properties of Bacteria. (Beziehungen zwischen Plasmolyse, Verdaulichkeit, Löslichkeit und Färbbarkeit von Bakterien.) W. Kruse.
96 Etiology of Granulomatous Lymphomatosis and Lymphatic Leucemia. (Zur Aetiologie der Hodgkinschen Krankheit und der Leukaemia lymphatica.) E. Fraenkel and H. Much.
97 *Cancer and Mechanical Laws of Development. (Die malignen Tumoren und die Entwicklungsmechanik.) J. Ries.
98 Theory and Practice of the Wassermann Reaction. E. Jacobsthal.
99 Carbon Dioxid Snow in Treatment of Warts, Corns, etc. (Behandlung der gewöhnlichen harten Warzen, des Klavus und Tyloma mit Kohlensäureschnee.) J. Fabry.
100 Adhesive Plaster Dressing for Ambulatory Treatment of Traumatic Effusion in the Knee. A. Blecher.
101 *Insidious Chronic Septic Endocarditis. (Endocarditis lenta.) H. Schottmüller. Commenced in No. 12.

April 5, No. 14, pp. 729-776

102 Differentiation of Diplopia of Psychic Origin. (Zur Diagnostik psychogenen Doppeltsehens.) F. Hamburger.
103 Importance of Tonsillitis in Etiology of Acute Articular Rheumatism. (Mandelentzündung und Rheumatismus.) Pickenbach.
104 *Dosage for Bier's Constriction Hyperemia. (Dosierung der Stauungshyperämie.) M. zur Verth.
105 Cholera Toxin. M. Hahn.
106 Atypical Proliferation of Epithelium after Injection of Scarlet Red Oil and Amidoazotoluol Oil into Human Subcutaneous Tissue. H. Stoeber.
107 Serologic Differentiation of Human Blood from Different Individuals. (Ueber eine Methode das Blut verschiedener Menschen serologisch zu unterscheiden.) E. von Dungern and Hirschfeld.
108 Mechanism of Metallic Sounds in Ileus. (Bedingungen des Zustandekommens des peristaltischen Metallklingens bei Ileus.) G. Leuenberger.
109 The *Micrococcus tetragenus* in Septicemia and Mixed Infections. O. Meltzer.
110 Relations between the Tonus, the Secreting Power and the Position of the Lowest Part of the Stomach. (Beziehungen zwischen dem Tonus, der Salzsäureproduktion und der Lage des tiefsten Punktes des Magens.) H. Bräuning.

90. **Recognition of Duodenal Ulcer Before Perforation.**—Wilms was able to differentiate the bleeding duodenal ulcer, in the absence of perforation, in three cases recently and cured the patients by merely folding over the floor of the ulcer and suturing it together so that the floor protruded into the lumen of the intestine. The ridge thus formed sloughs away and the same results are attained as with excision, with a much less serious operation. In his three cases there had been recurring intestinal hemorrhage for years unaccompanied by disturbances on the part of the stomach in two cases; in the third a gastroenterostomy had already been done. He applies his method of diagnosis from within. He first attempted it for examination of the lower segment of the esophagus, by introducing the finger through an incision in the anterior wall of the stomach; the wall is drawn up around the base of the finger with a purse-string suture, the finger being protected with a rubber cot. By this means it is easy to reach and palpate the interior of the upper part of the duodenum. When the ulcer is flat it is hard to distinguish it unless the wall of the duodenum is pressed against a hard background. He protests against routine performance of gastroenterostomy and urges suturing the ulcer, as above mentioned, to ward off perforation and hemorrhage.

92. **Treatment of Exophthalmic Goiter.**—Kocher states that there are fully 1,000 cases on record now of operative treatment of exophthalmic goiter, including 376 cases from the Kocher clinic, 76 per cent. of the patients being cured. In the latter group the exophthalmos has subsided in three-fourths of the cases; its subsidence depends more on its duration than on its degree. He discusses the 20 cases in which the operation failed to cure, showing that recurrence of the goiter was responsible for this in some of the cases, in others secondary lesions of the other organs were responsible, and in the remainder there was a tendency to neurasthenic-hysteric manifestations. The latter had been sometimes erroneously ascribed to the exophthalmic goiter itself, but they should be considered separately and the fact borne in mind that a neurotic tendency influences the onset, the degree and the course of the exophthalmic goiter. He compares the almost inevitable improvement and the constant cure when the operation has been correctly done with the uncertain results of internal treatment, everything speaking in favor of the former. At the same time, he insists on the importance of supplementing operative measures with internal, and preparing patients for operation by absolute rest and symptomatic treatment, although he warns against anything liable to raise the blood pressure or induce excessive diuresis. He adds that the best internal treatment is a stay at an altitude of from 3,000 to nearly 5,000 feet, mild hydrotherapy in the form of cool sponging and baths, regulation of the diet to reduce the proportions of albumin and fats, and a rest cure interrupted by regular, systematically increasing muscular exercises against resistance, with phosphorus, arsenic or iron internally. He advises against specific thyroid treatment, his experience being that in any form its action is inconstant and transient in these cases, although he admits that organotherapy may yet be perfected to great efficacy.

97. **Etiology of Cancer.**—Ries suggests the possibility that injury of the nucleus of the cell causes it to lose the faculty of checking the development of the supernumerary centrosomes, which thus develop atypically and the proliferation assumes a malignant nature.

101. **Slow Endocarditis.**—Schottmüller applies the term "endocarditis lenta" to an infection localized in the endocardium, the germs sallying forth thence occasionally into the blood. The germ in question, he says, he isolated ten years ago, entitling it the *Streptococcus mitior seu viridans;* it is not very virulent but induces necrosis in parts of the endocardium, leading to wart-like efflorescences and causing a clinical picture distinguished by the insidious onset, the vague slight pains in the joints and groups of muscles, with palpitations and dyspnea and a dry cough, the latter causing the suspicion of a lung rather than of a valvular affection, especially if the patients are pale and anemic. In the five cases in his experience there were evidences of mitral endocarditis. At first there were no audible murmurs in some cases, but the persistent fever suggested the true diagnosis. In two of his cases death occurred from cerebral hemorrhage, in the others the disease progressed to myocarditis. The spleen was generally enlarged. The main feature of the disease is the tendency to embolism and to aneurism in various arteries and to hemorrhagic nephritis. Patches of purpura and retinal hemorrhages confirm the septic nature of the affection, but the fever was never very high and chills were rare. The endocarditis generally proved fatal in a year or two. The diagnosis is rendered certain by the bacteriologic blood findings. Treatment can be only symptomatic.

104. **Dosage for Constriction Hyperemia.**—The most suitable degree of constriction is shown to be that of the minimal ("diastolic") arterial pressure, that is, the degree of constriction with a 15 cm. wide, air or water-filled cuff with which the peripheral pulse just begins to show the influence of the constriction. The region at this moment of the minimal arterial pressure contains the largest possible amount of blood. The point of arterial minimal pressure is slightly below the minimal pressure as determined by auscultation; but the auscultation findings are useful for warning against too powerful constriction in applying the constricting band.

Therapie der Gegenwart, Berlin

April, LI, No. 4, pp. 145-192

111 Medicinal Treatment of Cholelithiasis. F. Eichler.
112 *Apparatus for Treatment of Asthma. G. Zuelzer.
113 Relish and Appetizers. I. (Genuss und Genussmittel.) W. Sternberg.
114 *Treatment of Surgical Tuberculosis. W. Kausch. Commenced in No. 3.
115 Medicinal Treatment of Diabetes. Lenné.

112. **Apparatus for Treatment of Asthma.**—Zuelzer regards the primary inflation of the lung as the most essential factor in the acute attack of asthma; the congestion in the bronchial

mucosa is of secondary importance. In treatment he formerly gave atropin to combat this tendency to exaggerated distention of the lungs, but lately has devised an apparatus which answers the same purpose by regulating the respiration. An illustrated description of the apparatus is given. It is worked by compressed air or oxygen and permits a positive pressure up to 40 cm. water during inspiration and a negative pressure of the same intensity during expiration. After three or four minutes' use of the apparatus, the outlines of the lung retrogress by 2 or 3 fingerbreadths. The apparatus, he says, can take the place of a pneumatic cabinet.

114. **Treatment of Surgical Tuberculosis.**—Kausch lays special stress on the technic for treatment of cold abscess with iodoform-glycerin emulsion: The main points he states are to inject the fluid under pressure and in sufficient amounts, afterward holding the mouth of the fistula closed for five minutes at least, and better still for ten. At the end of this time if any fluid escapes it is pure glycerin, the iodoform having settled on the walls. He uses a rubber and glass syringe, the tip being introduced into a hard rubber olive or ball, the latter fitting over the mouth of the fistula more tightly than with other appliances and permitting application of more force. He reports a number of examples to show the good results attainable with this technic. In one case a man of 60 had had a tuberculous process in the left elbow and wrist for several years, both joints being much deformed; there were also ten fistulas and amputation had long been advised. Kausch applied constriction hyperemia according to Bier and injection of iodoform-glycerin emulsion into the fistulas under pressure; the arm was also immobilized with a splint. The entire process healed in about two months, leaving a fairly movable wrist. In another case the diagnosis wavered between tuberculosis and osteomyelitis and no improvement was observed in four weeks during which the iodoform treatment had been carried out by assistants. Kausch then investigated and found that too small amounts had been injected and without sufficient pressure and the mouth of the fistula had not been held closed long enough afterward; he then made the injections himself and prompt recovery followed. The patient in this case was a woman of 50 with a fistula in the left shoulder which had persisted for a number of years.

Virchows Archiv, Berlin

March, CXCIX, No. 3, pp. 385-570

116 Pathologic Anatomy and Microbiology of Measles. (Masern.) C. Ciaccio. Commenced in No. 2.
117 Atresia of Duodenum and other Malformations. (Fall von Duodenumatresia in Kombination mit Defekt des mittleren Oesophagus und des untersten Rektum sowie mehrfachen anderen Missbildungen.) K. Meusburger.
118 Seven Cases of Deformities in the Esophagus. (Fistulae oesophageo-oesophageales congenitae.) S. Ciechanowski and L. K. Glinski.
119 Endoneural Proliferation from Pressure on Peripheral Nerves. (Weiteres über endoneurale Wucherungen.) S. Trzebinski.
120 Tumor of Base of Skull. (Interessante Geschwulst der Schädelbasis.) G. Masern.
121 Russell's Fuchsin Bodies. (Russellsche Körperchen.) J. W. Miller.
122 Chemical and Histologic Research on Staining of Fat Tissue. (Ueber Fettfärbung.) P. Eisenberg.
123 Study of Infundibular Cysts in the Human Brain. H. W. E. Ehlers.
124 Origin of Melanin. (Zur Melaningenese.) Melrowsky and A. Jaeger.

Wiener klinische Wochenschrift, Vienna

April 7, XXIII, No. 14, pp. 495-528

125 *Pathologic Anatomy of Suicide. (Zur pathologischen Anatomie des Selbstmordes.) J. Bartel.
126 *Exclusion of Source of Heat Production during Momburg Belt Constriction. (Ausschaltung der Muskulatur als Wärmequelle, eine Folge der Momburgschen Blutleere.) H. Ehrlich.
127 *New Studies of Strychnin, Calomel and Bismuth. (Beitrag zur Bewertung von Medikamenten.) K. Chodounsky.

125. **Pathologic Anatomy of Suicide.**—Bartel tabulates the classified findings in 122 cases of suicide, including 55 women or girls. Certain traits in common were observed, especially hypertrophy of the internal organs and considerable development of the lymphatic tissue, the thymus being unusually large in many of the cases. On the other hand, the arterial system seemed to be undeveloped, the appendix remarkably long, the stomach showing mammillation and the thyroid in colloid degeneration; the ovaries in the women were frequently studded with cysts. Defects in development were common. He urges closer examination of the anatomic conditions, striving to discover constitutional factors for the tendency to suicide.

126. **Exclusion of Heat Production in the Muscles as Result of Momburg Belt Constriction.**—Ehrlich reports a case in which a healthy young man had the belt constriction applied to arrest hemorrhage from a traumatic injury in the groin. The tubing was left in place for thirty-two minutes, while the femoral artery was sutured. Fifteen minutes after the close of the operation the patient's temperature was found to be 35.2 C. and it did not return to normal for five hours (95.1 F.). This experience was repeated in animals under the Momburg belt constriction; Ehrlich explains it as due to the motor and chemical insufficiency of the musculature resulting from the constriction. Hours were required for the restoration of normal temperature and especially sensitive animals never recovered. The disturbance in the heat production persisted longer in animals weakened by hemorrhage than in normal animals. Especial care therefore is necessary in applying the Momburg belt to anemic patients.

127. **New Research on Action of Strychnin, Calomel and Bismuth.**—Chodounsky reviews certain research that has been done in his laboratory which seems to throw new light on some old drugs. Experiments with frogs, rabbits, etc., failed to confirm the general assumption that strychnin is a tonic for the musculature of the stomach and intestines; on the contrary, there was rather muscular relaxation, even during tetany. These experiences, he declares, warn against the use of strychnin in chronic gastrointestinal diseases, especially when there is a tendency to constipation. He has found in the literature 14 fatalities from the therapeutic use of calomel, death occurring in from 3 to 42 days after a total dose of from 0.3 to 2.7 gm. (5 to 40 grains) in 7 cases and in the others after a total dose of from 2.4 to 4.6 gm. (up to 70 grains). Serious intoxication was observed in small dogs given a total of 1.04 gm. (22 grains) in the course of 12 days, and a total of 2.75 gm. (42 grains) for large dogs in 6 days. The prolonged administration of small doses seems to be more dangerous but the larger doses have a more intense toxic action in case there is no purging. His research also showed that the production of bile was diminished after calomel, and also that the drug had an irritating action on the kidneys. His research has further confirmed the toxic possibilities in the use of bismuth.

Zeitschrift für Urologie, Leipsic

March, IV, No. 3, pp. 161-240

128 Improved Technic for Electrotherapy of Prostatitis. (Ueber Elektrisierung der Prostata mittels intermittierenden Induktionsstroms.) G. J. Muller.
129 Bladder Calculi in Diverticula in Women. (Zur Kenntnis der eingesackten Blasensteine bei der Frau.) E. R. W. Frank.
130 Source of Phosphaturia in Gonorrhea. (Zur Frage des Ursprunges der Phosphaturie bei Gonorrhoe.) H. Lohnstein.

Zentralblatt für Chirurgie, Leipsic

April 9, XXXVII, No. 15, pp. 529-568

131 The Alcohol-Iodin Method of Surgical Sterilization. (Zur Desinfektion der Haut nach Grossich.) G. Hesse.

Zentralblatt für Gynäkologie, Leipsic

April 9, XXXIV, No. 15, pp. 497-528

132 Operative Treatment of Retroflexion of the Uterus. (Die Operation von Pestalozza.) F. Montuoro.
133 Necessity for Legal Regulations in Regard to Artificially Induced Abortion. (Notwendigkeit gesetzlicher Bestimmungen für den künstlichen Abortus.) W. Thorn.
134 Retroperitoneal Tumors. R. Marek.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 24, XXXI, No. 36, pp. 377-384

135 Precipitation of Colloidal Metals in Contact with Certain Organic Substances. (Sulla precipitazione dei fermenti metallici in contatto con alcune sostanze organiche.) G. W. La Ferla.

March 27, No. 37, pp. 385-400

136 *Possibility of Typhoid Infection from Snails. (Tifo e lumache.) P. Barabaschi.

136. **Snails and Typhoid Fever.**—Barabaschi allowed snails to feed on cultures of typhoid bacilli after which agglutinating typhoid bacilli were found in the dejecta of the snails, showing

the possibility of contagion by transportation of germs in this way to vegetables usually eaten raw, on which snails and slugs feed.

Policlinico, Rome

April 3, XVII, No. 14, pp. 449-450

137 *Diagnosis of Inherited Syphilis in Foundling Asylums. (La diagnosi della sifilide ereditaria nel brefotrofi.) M. Flamini.

April 10, No. 15, pp. 481-482

138 *The Antimalaria Campaign. (Contributo alla eziologia ed alla lotta contro la malaria.) D. Falcioni.

137. **Diagnosis of Inherited Syphilis in Foundling Asylums.**—Flamini has tried the various differential tests to distinguish the infants with an inherited syphilitic taint, but states that the technics are too complicated for general adoption in such institutions. Only the Porges-Meier method is simple enough, and he found that this is not entirely reliable. He obtained a positive response in only 11 out of 49 infants tested, and only 5 of these were unmistakably syphilitic; 4 showed certain signs suspicious of syphilis, and 2 have seemed to be entirely free from any tendency to the disease up to the present time. The Porges-Meier test is the precipitation that occurs when a 1 per cent. solution of lecithin (in physiologic salt solution, with addition of 0.5 per cent. phenol), is added to 5 times the amount of syphilitic serum diluted with 5 times its amount of physiologic salt solution. The process observed in the mixture after a few hours' incubation resembles positive findings with the agglutination test.

138. **Antimalaria Campaign.**—Falcioni states that in his years of experience with malaria around Rome and elsewhere, he never visited a case in which he was not able to find specimens of the anopheles on the walls or ceiling somewhere in the house; if nowhere else it was found in the cellar. He also states that he never encountered a case in which the patient had not slept over night in the malarial zone in some house. He has been impressed with the fact that the malarial zone is not dangerous throughout but merely in certain inhabited centers. The anopheles does not bite during the day or evening but only late in the night, and only, he asserts, in the shelter of a house, barn or other building. The laborers can dig, mow, thrash, etc., staying on the Campagna all summer long, but if they sleep out of doors, far from buildings, they do not contract malaria. He has never encountered a case in a herder or shepherd sleeping in this way. In the shelter of the buildings the anopheles seems to live for months, as it is protected against the vicissitudes of the weather. He is convinced that it is the only source of infection, and that the most important measure in prophylaxis of malaria is to kill off the anopheles in the houses where infection has occurred, petrolizing further all places in the vicinity of houses where the anopheles is liable to breed, and screening houses, etc. Draining the land is not enough alone as he has seen cases of malaria in well-drained regions. He urges the organization of a central office in each malarial district to keep records of the endemic foci on the various plantations from year to year and direct the prophylaxis, instituting preventive courses of quinin at points where danger threatens, making the course more or less intense with the severity of the endemic, and thus gradually stamping it out at every point.

Hospitalstidende, Copenhagen

February 23, LIII, No. 8, pp. 225-248

139 Celloidin Technic for Sections. (Erfaringer med den Suzuki'ske Metode til Fremstilling af Celloidin-Snitserier.) A. Jurisch.

March 2, No. 9, pp. 249-280

140 Advantages of India-Ink Technic for Bacteriologic Research. (Burri's Tuschmetode til Fremstilling af ægte Renkulturer af Bakterier—Dyrkning fra een eneste Bakterie—Spirochætepaavisning, etc.) O. Thomsen and K. Jakobsen.

141 Death of Fetus near Term Probably Result of Therapeutic Administration of Salipyrin. (Fosterets Død som Følge af Salipyrinbehandling?) F. Tellmann.

March 9, No. 10, pp. 281-304

142 *Determination of Ferments in Stools, Especially Pancreatic Ferment. (Om Fermentpaavisning i Fæces.) K. A. Heiberg.

March 16, No. 11, pp. 305-328

143 Advantages of Anesthesia by Peroral Intubation. (Om Kuhn's perorale Tubage.) L. Mahler.

March 23, No. 12, pp. 329-360

144 Case of High Scapula. (Tilfælde af højtstaaende Skulderblad.) A. Hald.

145 The Health Record on the Danish Polar Expedition. (Sundhedsforholdene paa "Danmark-Expeditionen.") J. Lindhard.

142. **Determination of Pancreatic Ferment in Stools.**—Heiberg reports in detail two cases in which the findings in regard to the presence of pancreatic ferment in the feces were negative. The assumption of obstruction of the pancreatic duct was confirmed by autopsy. In one case the findings had been positive until not long before death, and the cancer had only recently obstructed the outlet to the pancreas. In the other case the cancer was in the head of the pancreas and the findings had been constantly negative from the first examination. He used the simple and comparatively reliable Gross-Koslowsky casein method to determine the presence and amount of the proteolytic ferment.

Ugeskrift for Læger, Copenhagen

March 31, LXXII, No. 13, pp. 369-388

146 Decline in Mortality from Tuberculosis in Recent Years. (Tilbagegang i Tuberkulosedødeligheden.) C. Jensen.

Upsala Läkareförenings Förhandlingar

N. S. XV, No. 3, pp. 127-210. Last indexed Feb, 19, p. 663

147 *Case of Incomplete Myxedema with Raynaud's Symptom. (Fall af myxoedeme fruste med Raynaud's Symtom.) L. Ehrenberg.

148 *Temperature of the Skin of the Fingers in Health and in Disease. (Jakttagelser öfver hudtemperaturen å fingrarne hos friska och sjuka.) L. Ehrenberg.

149 *Methods of Treating Large Cavities in Long Bones. (Några ord rörande behandlingsmetoderna af stora, svårläkta benhålor i de långa rörbenen med demonstration af ett fall, som för 5½ år sedan behandlades med Thierschning å benhålansväggar.) G. Ekehorn.

150 Changes with Age in Number of White Corpuscles in Rabbit Blood. (Om åldersvariationer i de hvita blodkropparnes antal hos kaninen.) G. Lindberg.

151 Delivery of Living Child with Permanently Backward Doubled Body. (Förlösning med dubbelviket, lefvande foster.) S. Lindqvist.

147 and 148. **Abortive Myxedema with Raynaud's Disease.**—Ehrenberg's patient was a woman of 56 who for more than ten years had had recurring attacks of local syncope and asphyxia in the hands and feet, suggesting Raynaud's disease, accompanied by dryness of the skin, subnormal temperature and other indications of myxedema, this assumption of a tendency to myxedema being confirmed by the benefit realized under thyroid treatment. The case is the only one of which he knows that suggests a thyroid origin for the vasocontractile phenomena first described by Raynaud. In order to show the intensity of the temperature changes, he gives the curves representing the peripheral temperature, especially of the hands, in this case and also in 26 healthy persons for comparison. The temperature even in health was found to vary widely, but the extremes were never so marked as in the case reported.

149. **Thiersch Flaps in Treatment of Cavities in Long Bones.**—Ekehorn reviews the various methods in vogue for treating large cavities in the long bones and reports a case in which a cavity left from an osteomyelitic process promptly healed under the application of Thiersch flaps to line the hole, after failure of various other measures. The skin flaps "take" readily, he states, and healing is soon complete by this method.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

THE NATURE OF CANCER. Suggestion for a New Treatment. By John Clay. Cloth. Price, 3 shillings 6 pence net. Pp. 159 with illustrations. London: Swan Sonnenschein & Co., 1910.

GRUNDRISS UND ATLAS DER SPEZIELLEN CHIRURGIE. Von Georg Sultan, M.D. Second Edition. Lehmann's medizinische Handatlanten. Vol. XXXVII. Cloth. Price, 16 marks. Pp. 624, with 261 illustrations. München: J. F. Lehmann's Verlag, 1910.

HYPNOTISM AND TREATMENT BY SUGGESTION. By J. Milne Bramwell, M.B., Author of "Hypnotism: its History, Practice and Theory," etc. Cloth. Price, $1.75 net. Pp. 216. New York: Funk and Wagnalls Co., 1910.

SIXTY-FIRST ANNUAL REPORT OF THE BOARD OF TRUSTEES AND SUPERINTENDENT OF THE CENTRAL INDIANA HOSPITAL FOR INSANE AT INDIANAPOLIS. For the Fiscal Year Ending Sept. 30, 1909. To the Governor. Paper. Pp. 63.